AUDITOR
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Report of the Auditor General of Alberta

October 2008

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AUDITOR
GENERAL
Alberta

Mr. Leonard Mitzel, MLA
Chair
Standing Committee on Legislative Offices

I am honoured to send my *Report of the Auditor General of Alberta—October 2008* to the members of the Legislative Assembly, as required by section 19(5) of the *Auditor General Act*. This report together with my *April 2008 Report* provides timely reporting to the Legislative Assembly on the results of the work of the Office of the Auditor General.

[Original signed by Fred J. Dunn, FCA]
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Auditor General

Edmonton, Alberta
September 22, 2008

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Summary of our key findings

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Chief Executive Officer (CEO) selection, evaluation and compensation

Agencies—through their programs and services—affect all Albertans. Agency CEOs set the tone for their agency, develop direction, oversee operations, and advise the board of directors. CEO selection is the most important decision that an agency's board of directors makes. Boards also improve CEO performance by giving feedback to the CEO through evaluations. Through compensation, boards attract, motivate, and keep a CEO.

The following steps will improve systems to select, evaluate and compensate CEOs:
- Government needs to provide guidance to agencies and departments.
- The Agency Governance Secretariat should obtain CEO evaluation and compensation information and assess if good practices are consistently followed.
- The Ministry of Treasury Board needs to consider improving public disclosure of CEO compensation by applying new private-sector disclosure requirements.

Boards need to:
- prepare CEO recruitment and succession policies and plans.
- ensure comprehensive CEO performance evaluations are completed.
- develop compensation policies for CEOs, improve the use of peer-group comparisons in setting CEO compensation, and develop processes to ensure compensation consultants are independent.

See page 53

Protecting information assets

The Government of Alberta (GoA) manages huge volumes of sensitive and confidential information. This includes business and financial data and personal information, such as medical records and drivers' license data. All this information, stored electronically, is vital to GoA operations. Albertans expect the confidentiality, integrity and availability of this information to be assured. The GoA has a duty to safeguard this information properly. It's not doing so.

GoA information technology (IT) security is inadequate. Establishing a central security office with responsibility and authority to control and protect all GoA information assets is key to overcoming the deficiencies that exist today. A decentralized approach, while effective for program delivery, is inadequate for proper IT security. This matters because:

- GoA is a $38 billion/year organization and important financial information is at risk.
- Confidential personal information of all Albertans is at risk. By law, government must protect personal information.

The GoA needs a central security office—immediately—to develop, implement, monitor, and enforce government-wide IT security. A chief security officer (CSO)—with the appropriate mandate from Executive Council—should lead the office.

Service Alberta provides the shared computing infrastructure, but it has no government-wide authority to enforce compliance with GoA security policies.

See page 93

Alberta's response to climate change

The Government of Alberta (GoA) made climate-change commitments in *Albertans & Climate Change: Taking Action*, its 2002 climate-change plan and in *Alberta's 2008 Climate Change Strategy* (which replaced the 2002 plan). The GoA established targets for both emissions intensity and absolute reductions but has not yet corroborated that the actions chosen will result in Alberta meeting its targets.

To meet these targets, the GoA now needs to:
- establish criteria for deciding specific actions.
- develop a master implementation plan.
- improve the processes for monitoring climate-change results.
- ensure reported data is relevant and reliable.

See page 109

ATB Financial—treasury management

ATB Financial (ATB) provides financial services to over 660,000 customers in 244 Alberta communities and has over $24 billion in assets. ATB's returns—both gains and losses—belong to all Albertans. The GoA provides a deposit guarantee to all ATB depositors. The potential cost to Albertans of the deposit guarantee makes it important that ATB manages its funds and risks appropriately.

For the year-ended March 31, 2008, ATB recorded a $253 million provision on its investment in asset-backed commercial paper. Learning from this situation, ATB needs to improve its treasury-management systems. To do so, ATB needs to:
- implement processes to fully understand investment products and their risks before buying them. And improve investment risk monitoring systems.
- change its investment performance target setting process and variable pay program guidelines.
- improve its liquidity reporting, contingency plan, and risk identification processes.

- enhance its interest rate risk measurement systems.
- update its treasury policies for industry good practices.
- upgrade its treasury information technology tools.
- use its Asset Liability Committee more effectively.

ATB is taking action to improve its systems.

See page 151

Alberta's mental health service delivery system

The *Provincial Mental Health Plan* (April 2004) envisions a transformed service delivery system that focuses on client recovery, community-based services and integrated services and supports. The current system still focuses on hospital beds and clinics, so has not yet completed that transformation.

While all regional health authorities provide a continuum of mental health care services, the system faces serious challenges. Services to clients and patients can improve by making access to the system easier, reducing wait times for many programs and coordinating care better. Factors such as the stigma attached to the illness, its chronic nature, and the transfer of responsibility for care delivery between service providers combine to keep mental health in the background.

To improve delivery of mental health services in accordance with the principles of the *Provincial Mental Health Plan*, the Ministry of Health and Wellness needs to:

- develop mental health standards that form the foundation for the mental health system.
- eliminate gaps in services. Gaps are where programs either do not exist or have a long wait time. Poorly coordinated care also signifies a gap in services, resulting in clients not getting the service they need.
- better coordinate and manage services across the province and within regions to improve efficiency.
- increase accountability for the mental health service delivery system.

See page 281

Alberta Investment Management Corporation (AIMCo)

AIMCo, a newly formed Crown corporation, commenced its operations on January 1, 2008. It now manages investments, previously managed by Alberta Finance, with a market value of approximately $75 billion, including Alberta pension funds and the Heritage Savings Trust Fund.

Our overall finding in auditing the investment pools is that senior management needs to focus its attention on internal control. When senior managers make internal control a top priority and provide active leadership, and when a board satisfies itself the principles and expectations for the control environment are in place, the people who are responsible for internal control will also make cost-effective control a top priority.

With the imminent prospect of the funds under management growing in an increasingly complex investment market, we believe the key to AIMCo's continued success is to introduce a process for certifying the design and operating effectiveness of its internal controls.

We have recommended that AIMCo introduce a process to get the organization ready for internal control certification, meaning explicit assertion by the organization on the quality of its control processes. We have outlined the steps, which include sub-certification processes, whereby direct reports to the CEO provide formal certification on their areas of responsibility.

See page 232

Universities Academic Pension Plan unfunded liability

Alberta's four universities and the Department of Advanced Education and Technology need to continue to work together to review the accounting treatment for the unfunded liability of the Universities Academic Pension Plan, to enable each University to properly measure and record its share of the liability in its financial statements.

See page 356

Managing Alberta's sand and gravel resources

The Department of Sustainable Resource Development (SRD) manages these natural resources by administering operators' access to public lands, and ensuring compliance with land reclamation requirements. We found that:
- SRD is behind, in some cases up to 20 years, with land reclamation inspections.
- security deposits collected from operators may not reflect true reclamation costs—operators may find it cheaper to abandon security deposits than to reclaim land.
- operators who don't reclaim land may be awarded new holdings on other public land.
- royalties are collected, but are based on volumes reported by industry without verification. Royalty rates haven't changed since 1991.

To better manage these natural resources, SRD needs to:
- improve monitoring and enforcement of operators' legal obligations.
- assess the current royalty structure.
- better use the information it has.

Recommendation highlights

This Report contains 114 recommendations, all of which are listed, starting at page 7. We have numbered the 42 recommendations that we think need a formal response from the government. Of the 42 numbered recommendations, 40 are new. The other 2 repeat previous recommendations where implementation progress was too slow. By repeating these recommendations, we expect the government to formally recommit to their implementation.

Prioritizing our recommendations

As part of the audit process, we provide recommendations to government in documents called management letters. We use our public reporting to bring our recommendations to the attention of Members of the Legislative Assembly (MLAs). For example, members of the all-party Standing Committee on Public Accounts refer to the recommendations in our public reports during their meetings with representatives of government ministries and agencies. To help MLAs, we prioritize our recommendations in our public reports to indicate where we believe they should focus their attention. We categorize them as follows:

- 🔑 **Key recommendations**—these are the numbered recommendations we believe are the most significant. By implementing these recommendations, the government will significantly improve the safety and welfare of Albertans, the security and use of the province's resources, or the governance and ethics with which government operations are managed.
- **Numbered recommendations**—we believe these recommendations require a formal response from the government. We ask government to accept these recommendations and commit to an implementation date.
- **Unnumbered recommendations**—these recommendations, although important, do not require a formal response from government. We obtain management's acceptance of these recommendations, and agree to an implementation date.

Key recommendations

🔑 Indicates a key recommendation

The key recommendations, in serial order, are numbered: 1, 4, 11, 12, 15, 16, 23, 32 and 40.

Repeated recommendations

This report contains two repeated numbered recommendations:

- No. 22, Advanced Education and Technology—University of Calgary—PeopleSoft Security (*2005–2006 Annual Report*, vol. 2, page 24 and repeated in our *2006–2007 Annual Report*, vol. 2, page 13)
- No. 33, AIMCo—Ensure completeness and accuracy of private equity partnership investments (*2006–2007 Annual Report*, vol. 2, page 92)

Reporting the status of recommendations

We require the government to agree to an implementation date for each recommendation it accepts. Typically, we do not report on the progress of an outstanding recommendation until management has had sufficient time to implement the recommendation and we have completed our follow-up audit work.

The status of our recommendations is reported as follows:

- Implemented—we briefly explain how the government implemented the recommendation.
- Repeated—we explain why we are repeating the recommendation and what the government must still do to implement the recommendation.
- Progress report—we provide information when we consider it useful for MLAs to understand management's actions.
- Satisfactory progress report—we may want to state that progress is satisfactory based on the results of a follow-up audit.
- Changed circumstance—if the recommendation is no longer valid, we briefly explain why.

Outstanding recommendations

We have a chapter called Outstanding recommendations—see page 379. It provides a complete list of the recommendations that are not yet implemented.

October 2008 recommendations

🔑—Indicates a key recommendation

Green print—numbered recommendations

Black print—unnumbered recommendations

Chief executive officer selection, evaluation and compensation

Page 27 **Guidance—Recommendation No. 1**
🔑 We recommend that the Deputy Minister of Executive Council through the Agency Governance Secretariat assist agencies and departments by providing guidance in the areas of CEO selection, evaluation and compensation.

Page 29 **Accountability—Recommendation No. 2**
We recommend the Agency Governance Secretariat, on behalf of Ministers, annually obtain information from agencies on CEO evaluation and compensation processes to assess if good practices are being consistently followed. The results of these systems assessments should be reported to Ministers, who should then hold boards of directors accountable for their decisions.

Page 32 **CEO compensation disclosure—Recommendation No. 3**
We recommend that the Treasury Board consider applying the new private-sector compensation-disclosure requirement to the Alberta public sector.

Protecting information assets

Page 53 **Central Security Office—Recommendation No. 4**
🔑 To secure the Government of Alberta's information, we recommend that Executive Council ensures that a central security office is immediately established to oversee (develop, communicate, implement, monitor and enforce) all aspects of information security for organizations using the government's shared information–technology infrastructure.

Page 64 **Develop and maintain detailed standards and policies to build and operate secure web applications—Recommendation**
We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, develop and maintain detailed policies, procedures, and standards to build and operate secure web applications.

Page 66 **Develop standards and policies to ensure web applications are built to required standards—Recommendation No. 5**
We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, develop and implement well-designed and effective controls to ensure all Government of Alberta web applications consistently meet all security standards and requirements.

Page 68 **Review and improve the GoA's shared computing infrastructure policies, procedures, and standards—Recommendation No. 6**
We recommend that the Ministry of Service Alberta work with all ministries and through the Chief Information Officer (CIO) Council, to develop and implement policies, procedures, standards, and well-designed control activities for the Government of Alberta's shared computing network.

Page 75 **Wireless policies and standards—Recommendation**
We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, update its existing Wireless LAN Access Security Policy to provide clearer guidance to Ministries in deploying and securing wireless-network-access points.

Page 76 **Device configurations—Recommendation**
We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, review the configuration of laptops, and approve policies to prevent laptops from inadvertently exposing the government environment.

Page 77 **Ongoing monitoring and surveillance—Recommendation No. 7**
We recommend the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, update network surveillance methods to detect and investigate the presence of unauthorized wireless access points within the Government of Alberta.

Page 84 **Increasing collaboration by ministries—Recommendation**
We recommend that the Ministry of Service Alberta and the Ministry of Infrastructure work in conjunction with all ministries and through the Chief Information Officer (CIO) Council to improve physical and environmental security controls of data facilities by:

- improving communication of responsibilities between ministries.
- establishing government-wide minimum physical and environmental standards for data facilities.

Page 85 **Backup power supplies—Recommendation**
We recommend that the Ministry of Service Alberta, work in conjunction with all ministries and through the Chief Information Officer (CIO) Council, to ensure that ministries that use data facilities ensure that connected computer equipment has a sufficient redundant power supply.

Page 87 **Physical security—Recommendation No. 8**
We recommend that the Ministry of Service Alberta work with the Ministry of Infrastructure, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, to improve:

- physical security controls at data facilities.
- logging of access to data facilities by implementing effective controls to track access.

Page 89 **Environmental security—Recommendation**
We recommend that Ministry of Service Alberta work with ministries to improve the environmental security controls at shared data facilities.

Alberta's response to climate change

Page 97 **Planning—Recommendation No. 9**
We recommend that the Ministry of Environment improve Alberta's response to climate change by:

- establishing overall criteria for selecting climate-change actions.
- creating and maintaining a master implementation plan for the actions necessary to meet the emissions-intensity target for 2020 and the emissions-reduction target for 2050.
- corroborating—through modeling or other analysis—that the actions chosen by the Ministry result in Alberta being on track for achieving its targets for 2020 and 2050.

Page 100 **Monitoring processes—Recommendation No. 10**
We recommend that for each major action in the 2008 Climate Change Strategy, the Ministry of Environment evaluate the action's effect in achieving Alberta's climate change goals.

Page 101 🔑 **Public reporting—Recommendation No. 11**
We recommend that the Ministry of Environment improve the reliability, comparability and relevance of its public reporting on Alberta's success and costs incurred in meeting climate-change targets.

ATB Financial—treasury management

Page 118 🔑 **Business rules and operating procedures—Recommendation No. 12**
We recommend that Alberta Treasury Branches develop and document the business rules and operating procedures required to implement the improved investment policy being developed.

Page 123 **Performance targets—Recommendation**
We recommend that Alberta Treasury Branches improve its process for establishing Global Financial Market's performance targets by discussing the targets with the senior Asset Liability Committee (ALCO) and maintaining evidence that supports decisions made.

Page 125 **Variable pay program—Recommendation**
We recommend that Alberta Treasury Branches complete its business rules on how variable pay is calculated for Global Financial Markets' staff by clarifying how to deal with:

- revenue not collected
- investment losses

Page 127 **Liquidity reporting—Recommendation**
We recommend that Alberta Treasury Branches agree internally on a consistent measure of liquidity and report that measurement to the Board and to the Department of Alberta Finance and Enterprise to provide regular and fair reporting.

Page 128 **Liquidity simulations—Recommendation**
We recommend that Alberta Treasury Branches further expand its use of liquidity simulations as a forward looking liquidity risk measurement tool. We also recommend that ALCO and the Board oversight committee consider whether the results of liquidity simulations indicate a need to modify its business plan.

Page 129 **Liquidity contingency plan—Recommendation No. 13**
We recommend that Alberta Treasury Branches develop a comprehensive liquidity contingency plan to be better prepared for a liquidity crisis and to fully comply with Alberta Finance and Enterprise's Liquidity Guideline. The plan should be updated and approved regularly.

Page 131 **Interest rate risk reporting—Recommendation No. 14**
We recommend that Alberta Treasury Branches provide better—more qualitative and quantitative—reporting to senior management and the Board on its interest rate risk management.

Page 132 **Interest rate risk model assumptions—Recommendation**
We recommend that Alberta Treasury Branches improve processes for creating, applying and validating assumptions used in its interest rate risk models.

Page 134 **Interest rate risk modeling and stress testing—Recommendation**
We recommend that Alberta Treasury Branches define its significant interest rate risk exposures and model those significant exposures to assess the effects on future financial results.

Page 136 **Interest rate risk controls—Recommendation**
We recommend that Alberta Treasury Branches put in place controls necessary to ensure consistent measurement of interest rate risk.

Page 137 **Role and use of middle office—Recommendation**
We recommend that Alberta Treasury Branches expand the role of its middle office to include responsibilities for monitoring interest rate risk. We also recommend that management ensure the middle office has the necessary resources to monitor foreign exchange activities and fulfill its other responsibilities.

Page 138 **Treasury information systems—Recommendation**
We recommend that Alberta Treasury Branches:
- evaluate its current treasury information systems against its business requirements
- develop and implement a treasury information technology plan to upgrade its tools

Page 139 **Treasury policies—Recommendation**
We recommend that Alberta Treasury Branches implement the updated investment and derivatives policies for changes arising from its recent review of those policies. We also recommend that ATB review the financial risk management policy.

Page 142 🔑 **Role of ALCO—Recommendation No. 15**
We recommend that Alberta Treasury Branches review the role of the Asset Liability Committee (ALCO) and consider restructuring it into two tiers.

Page 143 **Internal audit program—Recommendation**
We recommend that Alberta Treasury Branches internal audit department regularly examine all types of Alberta Treasury Branches' derivative activities to:
- promptly identify and rectify internal control weaknesses
- fully comply with the Alberta Finance and Enterprise Derivatives Best Practices Guideline

Alberta's mental health service delivery system

Page 162 🔑 **Mental health standards—Recommendation No. 16**
We recommend that the Department of Health and Wellness and Alberta Health Services create provincial standards for mental health services in Alberta.

Page 164 **Housing and supportive living—Recommendation No. 17**
We recommend that Alberta Health Services encourage mental health housing development and provide supportive living programs so mental health clients can recover in the community.

Page 168 **Clients with concurrent disorders—Recommendation No. 18**
We recommend that Alberta Health Services strengthen integrated treatment for clients with severe concurrent disorders (mental health issues combined with addiction issues).

Page 169 **Relationships with not-for-profit organizations—Recommendation**
We recommend that Alberta Health Services improve relationships with not-for-profit organizations to provide better coordinated service delivery.

Page 171 **Opportunities to reduce gaps in service—Recommendation No. 19**
We recommend that Alberta Health Services reduce gaps in mental health delivery services by enhancing:
- Mental health professionals at points of entry to the system;
- Coordinated intake;
- Specialized programs in medium-sized cities;
- Transition management between hospital and community care.

Page 176 **Provincial coordination—Recommendation**
We recommend that Alberta Health Services coordinate mental health service delivery across the province better by:

- Strengthening inter-regional coordination.
- Implementing standard information systems and data sets for mental health.
- Implementing common operating procedures.
- Collecting and analyzing data for evidence-based evaluation of mental health programs.

Page 181 **Improving community-based service delivery—Recommendation**
We recommend that Alberta Health Services strengthen service delivery for mental health clients at regional clinics by improving:

- Wait time management.
- Treatment plans, agreed with the client.
- Progress notes.
- Case conferencing.
- File closure.
- Timely data capture on information systems.
- Client follow up and analysis of recovery.

Page 186 **Funding, planning, and reporting—Recommendation**
We recommend that the Department of Health and Wellness and Alberta Health Services ensure the funding, planning, and reporting of mental health services supports the transformation outlined in the *Provincial Mental Health Plan* as well as system accountability.

Page 190 **Aboriginal and suicide priorities—Recommendation**
We recommend that the Department of Health and Wellness and Alberta Health Services consider whether the implementation priority for aboriginal and suicide issues is appropriate for the next provincial strategic mental health plan.

Advanced Education and Technology

Page 211 **University of Alberta—Improve investment controls—Recommendation No. 20**
We recommend that the University of Alberta:

- provide increased levels of detail on investments to the Investment Committee to facilitate the monitoring of the University's investments, and
- implement approval procedures for new investment vehicles.

Page 213 **University of Calgary—Improving the University's decentralized control environment—Recommendation No. 21**
We recommend that the University of Calgary improve the effectiveness of its control environment by:

- assessing whether the current mix of centralized and decentralized controls is appropriate to meet its business needs.
- defining clear roles, responsibilities and accountabilities for control systems' design, implementation, and monitoring.
- documenting its decentralized control environment and implementing training programs to ensure those responsible for business processes have adequate knowledge to perform their duties.
- monitoring decentralized controls to ensure processes operate effectively.

Page 216 **University of Calgary—Improving payroll controls—recommendation repeated—Recommendation**
We again recommend that the University of Calgary improve controls over payroll functions.

Page 217 **University of Calgary—Improving controls over journal entries—Recommendation**
We recommend that the University of Calgary improve controls over the approvals and documentation for journal entries.

Page 219 **University of Calgary—PeopleSoft security—recommendation repeated—Recommendation No. 22**
We again recommend that the University of Calgary improve controls in the PeopleSoft system by:

- finalizing and implementing the security policy and the security design document, and
- ensuring that user access privileges are consistent with both the user's business requirements and the security policy.

Page 221 **University of Calgary—Improving controls over investments—Recommendation**
We recommend that the University of Calgary improve controls over the approvals of transactions for its internally managed investments.

Page 222 **University of Calgary—Complying with legislation—Recommendation**
We recommend that the University of Calgary comply with the *Post-Secondary Learning Act* by seeking approval of the Lieutenant Governor in Council before engaging in housing-loan-guarantee transactions.

Page 223 **University of Lethbridge—Improving the University's financial processes—Recommendation**
We recommend that the University of Lethbridge improve its year-end processes to ensure the preparation of complete and accurate financial statements.

Page 225 **University of Lethbridge—Clearly defined financial research roles and responsibilities—Recommendation**
We recommend that the University of Lethbridge clearly define and communicate the financial research-management roles and responsibilities of Research Services, Financial Services, and Deans.

Page 227 **University of Lethbridge—Clear and complete research policies—Recommendation**
We recommend that the University of Lethbridge improve systems to ensure that:

- financial research policies are current and comprehensive.
- proper documentation is maintained for approving research accounts.
- researchers, research administrators and Financial Services staff are aware of changes to financial policies and are properly trained to comply with the policies.

Page 231 **University of Lethbridge—Periodic reporting to the Board of Governors on financial risks—Recommendation**
We recommend that University of Lethbridge management periodically report to the Board of Governors key information on financial risks in research management.

Page 232 **All universities—Review accounting treatment for Universities Academic Pension Plan for all universities—Recommendation No. 23**
We recommend that the four Alberta universities continue to work together—and with the Department of Advanced Education and Technology—to review the accounting treatment for the unfunded liability of the Universities Academic Pension Plan.

Employment, Immigration and Industry

Page 245 **Monitoring and enforcement of training providers—Recommendation No. 24**
We recommend that the Department of Employment and Immigration improve its monitoring of tuition-based training providers by:

- assessing whether performance expectations are being met.
- quantifying tuition refunds that may be owing to the Department.
- implementing policies and procedures that outline steps and timelines for dealing with non-compliance problems.

Page 249 **Approving and renewing training programs—Recommendation**

We recommend that the Department of Employment and Immigration improve its systems for approving and renewing programs by:

- clearly defining criteria for approving each program.
- developing clear performance expectations for each program and training provider.
- using its monitoring results to decide whether to renew a program.

Page 251 **Improve the use of information systems—Recommendation**

We recommend that the Department of Employment and Immigration improve the use of its information systems by:

- integrating its payment-processing system with other learner databases to ensure that tuition fee payments are accurate.
- implementing adequate controls to ensure all key learner data is promptly updated in the system.
- using exception reports to detect potential non-compliance problems.

Page 253 **Workers' Compensation Board (WCB)—Enforce procedures and guidelines for purchasing-card program—Recommendation**

We recommend that the Workers' Compensation Board enforce its procedures and guidelines for the purchasing-card program by ensuring that all purchasing-card reports are appropriately approved and have supporting documentation.

Energy

Page 255 **Alberta's Bioenergy Programs—Recommendation No. 25**

We recommend that the Department of Energy:

- undertake and document its analysis to quantify the environmental benefits of potential bioenergy technologies to be supported in Alberta.
- establish adherence to the Nine Point Bioenergy Plan as a criterion within its bioenergy project review protocol, and require grant applications to indicate the projected environmental benefits of proposed projects.
- prior to awarding grants in support of plant construction, require successful applicants to quantify—with a life cycle assessment—the positive environmental impact relative to comparable non-renewable energy products.

Page 257 **Strengthen controls to detect and prevent errors in reporting of royalty-liable fuel-gas volumes—Recommendation No. 26**

We recommend that the Department of Energy:

- strengthen controls to prevent fuel-gas volumes being incorrectly reported in the Petroleum Registry of Alberta and to detect incorrect reporting.
- improve its detection and monitoring processes over fuel-gas volume amendments.

Environment

Page 261 **Climate-Change and Emissions-Management Fund— Recommendation No. 27**

We recommend that the Ministry implement processes to comply with the Department of Treasury Board's deadlines for completing the financial statements of the Climate Change and Emissions Management Fund. We also recommend that the Ministry's management prepare the Fund's financial statements on an accrual basis.

Page 262 **EcoTrust governance—Recommendation**

We recommend that the Ministry of Environment improve its governance of ad hoc grants received from the federal government.

Finance

Page 268 **Financial reporting processes and succession planning—Investment Accounting and Reporting Group Recommendation No. 28**

We recommend that the Investment Accounting and Reporting group (IAR) of the Department of Finance and Enterprise improve the timeliness of its financial reporting and assess IAR workloads by:

- recruiting sufficient people with expertise in investment accounting.
- ensuring time budgets allow for increases in the number of investment pools, complexity of investment transactions, staff absences, management review and correction of errors.
- creating a management succession plan.

Page 270 **Donated funds—Alberta Heritage Scholarship Fund—Recommendation**

We recommend that the Department of Finance and Enterprise develop a process to ensure complete, accurate and timely recording of donations to the Alberta Heritage Scholarship Fund.

Page 271 **Payroll bank reconciliations—Recommendation**

We recommend that the Department of Finance and Enterprise work with its service provider to ensure that bank reconciliations for the government's payroll disbursement bank account are promptly prepared and reviewed.

Page 272 **User access—Recommendation**

We recommend that the Department of Finance and Enterprise review all user access to business data to ensure that unauthorized changes are prevented and appropriate incident monitoring exists to ensure systems issues are promptly resolved.

Page 273 **Use of spreadsheets in processing taxes—Recommendation**

We recommend that the Department of Finance and Enterprise, Tax and Revenue Administration, review the use of spreadsheets in processing Insurance Corporations Tax. We also recommend that the Department assess the costs, benefits and risks of using spreadsheets, and consider whether using existing established computer systems is more appropriate.

Page 274 **ATB—Internal controls over fair-value calculations of investments and derivatives—Recommendation**

We recommend that Alberta Treasury Branches improve controls over fair-value calculations of its investments and derivatives by:

- implementing a peer-review-and-approval process for inputs and assumptions used in the valuation models.
- using a benchmarking process—as an alternative process for derivatives—to assess reasonability of its calculated fair values.
- documenting the results of this work consistently.

Page 276 **ATB—Derivative credit limits in report—Recommendation**

We recommend that Alberta Treasury Branches promptly update the derivative credit limits disclosed on the daily derivative credit exposure report.

Page 277 **ATB—Controls for capturing non-consumer loan-risk ratings in its banking system—Recommendation**

We recommend that Alberta Treasury Branches improve controls for capturing non-consumer loan-risk ratings in its banking system.

Page 278 **ATB—Action plans to resolve internal control weaknesses identified by ATB's internal control group—Recommendation No. 29**

We recommend that Alberta Treasury Branches validate and approve business processes and internal control documentation developed by its internal control group and implement plans to resolve identified internal control weaknesses.

Page 279 **ATB—Criminal-record checks—Recommendation No. 30**
We recommend that Alberta Treasury Branches improve its hiring processes to ensure that criminal-record checks are completed before people start working for it.

Page 280 **ATB—Securitization policy and business rules—Recommendation No. 31**
We recommend that Alberta Treasury Branches develop and implement a securitization policy and securitization business rules.

Page 282 🔑 **AIMCo—Internal control certification—Recommendation No. 32**
We recommend that Alberta Investment Management Corporation introduce a process to prepare for internal control certification by:

- ensuring that its strategic plan includes internal control certification.
- developing a top-down, risk-based process for internal control design.
- selecting an appropriate internal control risk-assessment framework.
- considering sub-certification processes, with direct reports to the Chief Executive Officer and Chief Financial Officer providing formal certification on their areas of responsibility.
- ensuring that management compensation systems incorporate the requirement for good internal control.
- using a phased approach to assess the design and operating effectiveness of internal controls.

Page 284 **AIMCo—Conflicting responsibilities for internal audit—Recommendation**
We recommend that Alberta Investment Management Corporation rectify the conflicting job responsibilities of its Chief Internal Audit and Compliance Officer.

Page 285 **AIMCo—Procedures for valuing real estate investments—Recommendation**
We recommend that Alberta Investment Management Corporation improve its procedures for valuing real estate investments by:

- developing a detailed accounting policy which considers contingent liabilities such as development and incentive fees.
- segregating the valuation of real estate investments from the portfolio management role.
- developing procedures to reconcile the fair value and cost of real estate investments in the investments general ledger to the partner accounts in the audited financial statements of the real estate holding companies.

Page 287 **AIMCo—Ensuring completeness and accuracy of private equity partnership investments—recommendation repeated—Recommendation No. 33**
We again recommend that Alberta Investment Management Corporation reconcile its investments in private equity partnerships to the audited partnership financial statements.

Page 288 **AIMCo—International Swaps and Derivatives Association Agreements—Recommendation No. 34**
We recommend that Alberta Investment Management Corporation regularly review its International Swaps and Derivatives Association agreements to ensure that they protect it from the risk of default by its counterparties. We also recommend that the Corporation document the reasons for any changes to the standard form of the agreement.

Page 290 **AIMCo—Controls over trading with approved counterparties—Recommendation**
We recommend that Alberta Investment Management Corporation improve its processes for setting up and maintaining approved counterparties in the swap database system.

Page 291 **AIMCo—Performance measurement review processes—Recommendation**
We recommend that Alberta Investment Management Corporation improve its processes for management review and approval of investment performance information by implementing a review and approval process for investment performance reports.

Page 291 **AIMCo—Controls over records management—Recommendation**
We recommend that Alberta Investment Management Corporation maintain, file and be able to retrieve all hard-copy records supporting completed investment transactions.

Page 292 **Alberta Capital Finance Authority—Deadlines to finalize financial statements, finish the audit, and schedule the Audit Committee meeting—Recommendation**
We recommend that management and the Audit Committee of Alberta Capital Finance Authority extend the deadlines for:

- finalizing the financial statements.
- completing the financial statement audit.
- scheduling of the Audit Committee meeting to approve the December 31, 2008 financial statements.

Page 294 **Alberta Securities Commission—Purchase policy—Recommendation**
We recommend that the Alberta Securities Commission clarify its Purchase Policy to ensure compliance with the Trade, Investment and Labour Mobility Agreement.

Health and Wellness

Page 300 **Compliance monitoring activities—Recommendation No. 35**
We recommend that the Department of Health and Wellness complete a comprehensive risk assessment and develop a risk based plan to improve the effectiveness of its compliance-monitoring activities.

Page 301 **Infrastructure funding for health facilities—Recommendation**
We recommend that the Department of Health and Wellness improve controls over infrastructure grants for health facilities by implementing:

- agreements with grant recipients that clearly outline terms and conditions, roles and responsibilities and reporting requirements;
- a process to obtain periodic reporting on project status.

Page 303 **Province Wide Services—Recommendation No. 36**
We recommend that the Department of Health and Wellness:

- define the role and the responsibilities of the Province Wide Services Advisory Committee.
- update the Province Wide Services Funding Procedures and Definitions Manual and follow it.

Page 306 **Alberta Health Services—Calgary Health Region—information technology change management controls—Recommendation**
We recommend that Alberta Health Services—Calgary Health Region improve its change management policies and procedures, follow them and implement monitoring controls to ensure they are complied with.

Page 307 **Alberta Health Services—Calgary Health Region—information technology user access management controls—Recommendation**
We recommend that the Alberta Health Services—Calgary Health Region update its user access management policies and procedures, follow them and implement monitoring controls to ensure they are complied with.

Page 308 **Alberta Health Services—Capital Health—information technology security controls—Recommendation**
We recommend that Alberta Health Services—Capital Health improve its information technology security controls over user-access administration, privileged user accounts, security violations, and passwords.

Page 309 **Alberta Health Services—Capital Health—information technology change management controls—Recommendation**
We recommend that Alberta Health Services—Capital Health improve its information technology change-management controls over testing, categorizing, and reviewing changes.

Page 311 **Alberta Health Services—Peace Country Health—expense claims and corporate credit cards controls—Recommendation**

We recommend that Alberta Health Services—Peace Country Health strengthen and follow its policies and processes for employee expense claims and corporate credit cards. We also recommend that Peace Country Health develop and implement policies and guidance on appropriate expenses for hosting and working sessions.

Page 312 **Alberta Health Services—Peace Country Health—contract documentation—Recommendation**

We recommend that Alberta Health Services—Peace Country Health develop and implement a sole-sourcing policy for contracts and ensure that sole-sourcing is clearly documented and justified. We also recommend Alberta Health Services—Peace Country Health ensure contract amendments, including changes to deliverables, are documented and agreed to by both parties.

Page 313 **Alberta Health Services—Peace Country Health—information technology user access—Recommendation**

We recommend that Alberta Health Services—Peace Country Health establish a process to periodically review computer system user-access rights to ensure they are appropriate.

Page 317 **HQCA—Investigative Role Policy—Recommendation**

We recommend that the Health Quality Council of Alberta improve its Investigative Role Policy by defining or providing guidance on:

- methodologies for different circumstances.
- medical standards for planning and conducting investigations.

Page 319 **HQCA—guidance on using legal assistance—Recommendation**

We recommend that the Health Quality Council of Alberta provide guidance on use of legal assistance when conducting investigations.

International, Intergovernmental and Aboriginal Relations

Page 324 **Evaluating international offices' performance—Recommendation**

We recommend that the Ministry of International and Intergovernmental Relations improve the processes management uses to evaluate the performance of each international office.

Page 326 **Ensuring effective information-system controls—Recommendation**

We recommend that the Ministry of International and Intergovernmental Relations obtain assurance that information-system controls are effective at the international offices and that relevant Government-of-Alberta IT policies and standards are being met.

Justice and Attorney General

Page 331 **Office of the Public Trustee, Estates and Trusts—Administrative Policy Changes—Recommendation**

We recommend that the Office of the Public Trustee, Estates and Trusts update administrative policies for client assets by ensuring that the policy for:

- appraising gems, diamonds, and jewellery specifies what documentation to keep in trust files and clearly indicates when to appraise non-diamond-like jewellery.
- reimbursing Dependent Adult travel expenses is extended to Official Guardian clients.
- valuing personal vehicles for Dependent Adult clients specifies how to value the vehicles.

Municipal Affairs and Housing

Page 335 **ME first! Program— Recommendation No. 37**
We recommend that the Department of Municipal Affairs assess the effect on greenhouse gas emissions of the energy savings that resulted from the projects funded by the Department's *ME first!* Program and that the Department report the lessons learned from this program to the Departments involved in creating climate change programs.

Page 336 **Affordable housing advances—Recommendation**
We recommend that the Ministry of Housing and Urban Affairs assess the status of funds advanced to grant recipients who have not started the construction of affordable housing projects.

Service Alberta

Page 345 **Service Alberta's role as a central processor of transactions—Recommendation No. 38**
We recommend that the Ministry of Service Alberta consider providing internal control assurance to its client ministries on its centralized processing of transactions.

Page 346 **Access- and security-monitoring of application systems—Recommendation**
We recommend that the Ministry of Service Alberta ensure adequate logging and monitoring processes are in place in all application systems that host or support financial information and Albertan's personal information.

Page 348 **Secure storage for confidential information of Albertans—Recommendation**
We recommend that the Ministry of Service Alberta securely store void or cancelled documents with confidential information obtained through its vital statistics services.

Page 349 **System-conversion process—Recommendation**
We recommend that the Ministry of Service Alberta document its review of actual system-conversion activities to ensure that they comply with the approved test plan for system conversion and data migration.

Solicitor General and Ministry of Public Security

Page 351 **AGLC IT change management—Recommendation**
We recommend that the Alberta Gaming & Liquor Commission (AGLC) design and implement a comprehensive IT change-management policy with well-designed, efficient, and effective control processes. We further recommend that AGLC ensure that their change-management controls are consistently followed throughout the organization.

Sustainable Resource Development

Page 355 **Controls over revenue—Recommendation No. 39**
We recommend that the Department of Sustainable Resource Development put processes in place to allow significant revenues currently recorded when cash is received to be recorded when revenue is due to the Crown.

Page 360 🔑 **Enforcement of reclamation obligations—Recommendation No. 40**
We recommend that the Department of Sustainable Resource Development improve processes for inspecting aggregate holdings on public land and enforcing land reclamation requirements.

Page 362 **Flat fee security deposit—Recommendation No. 41**
We recommend that the Department of Sustainable Resource Development assess the sufficiency of security deposits collected under agreements to complete reclamation requirements.

Page 364 **Royalty rates for sand and gravel—Recommendation No. 42**
We recommend that the Department of Sustainable Resource Development assess whether current royalty rates for aggregate resources on public lands meet the aggregate allocation program goals and objectives.

Page 364 **Quantity of aggregate removed—Recommendation**
We recommend that the Department of Sustainable Resource Development develop systems to verify quantities of aggregate reported as removed by industry from public lands so that all revenue due to the Crown can be assessed and recorded in the financial statements.

Page 366 **Information management—Recommendation**
We recommend that the Department of Sustainable Resource Development capture and consolidate information throughout the life of an aggregate holding and use it to test compliance with legal obligations.

Treasury Board

Page 371 **Salary and benefits disclosure—Recommendation**
We recommend that the Ministry of Treasury Board, through the Salaries and Benefits Disclosure Directive, clarify what form of disclosure, under what circumstances, is required of the salary and benefits of an individual in an organization's senior decision making/management group who is compensated directly by a third party.

Page 375 **Report on select payments to MLAs—Content of Report—Recommendation**
We recommend that the Department of Treasury Board reaffirm what should be contained within the *Report of Selected Payments to Members and Former Member of the Legislative Assembly and Persons Directly Associated with Members of the Legislative Assembly* to ensure it continues to be relevant.

Page 376 **Report on select payments to MLAs—Efficiency—Recommendation**
We recommend that the Department of Treasury Board use current technology to regularly and efficiently compile the material for public reporting.

Page 377 **Report on select payments to MLAs—Timely Reporting—Recommendation**
We recommend that the President of Treasury Board arrange for all final reviews of the *Report* to take place within six months of the year end so that the *Report* can be ready for tabling in the Legislative Assembly.

Acknowledgements

We are grateful to the Members of the Legislative Assembly, in particular the members of the Standing Committee on Public Accounts, and those who replied to our performance survey and provided us with suggestions for audits they would find useful in doing their work as legislators. We appreciate their advice and thank them for their ongoing support.

We continue to appreciate input from members of the public who contact us to express concerns about government systems. They identify matters worthy of our office's follow-up and help us to plan the focus of our future audit work.

We thank the members of the Provincial Audit Committee for their wise counsel. This group of senior business executives with financial, business and governance skills has an important advisory role to government and the Office of the Auditor General.

We appreciate the cooperation of those we audit and recognize it is fundamental to our success. Senior management and board members of audited organizations met with us to discuss our audit plans, findings and recommendations. They provided us with the necessary information, reports, and explanations to our questions.

We thank the advisors who helped us complete our major systems audits. We appreciate their valuable contributions to our audit teams, our work and our reporting.

My staff, and the agent firms they work with, are dedicated to independent, objective and cost-effective auditing for the Legislative Assembly and the people of Alberta. I thank them for their thorough and professional work.

[Original signed by Fred J. Dunn, FCA]
Fred J. Dunn, FCA
Auditor General

September 22, 2008

Standards for systems audits

Systems audits are conducted in accordance with the assurance and value-for-money auditing standards established by the Canadian Institute of Chartered Accountants.

Chief executive officer selection, evaluation and compensation

1. Summary

What we examined

Do agencies have effective systems to find, assess, and pay CEOs?

The Alberta government delivers vital programs and services to Albertans through provincial agencies. The report, *At a Crossroads*[1], issued by the Board Governance Review Task Force, identified 248 agencies of which approximately 100 are board governed. We selected 61 of those board governed agencies (listed in Appendix A) that all operate under the leadership of a chief executive officer (CEO) to be in the scope of this audit. We assessed the overall effectiveness of systems that boards of directors use—across the public sector—to find, evaluate, and pay CEOs.

Quality of board decisions depend on quality of board members

The quality of board decisions depends on the quality of board members. A good system does not guarantee a good decision, nor does a bad system preclude a good decision. But a well-designed and functioning system greatly improves the potential quality of decisions. The government has the mandate to help boards implement well-designed systems by guiding them on good practices. So we also assessed government guidance to boards.

Board accountability to minister a key control

The systems we examined are key governance systems. Boards act directly on their decisions or recommend decisions to a minister. A key control, particularly when a board has full authority, is the board's accountability to the minister for its decisions. By accountability, we mean the minister's authority to assess if a board has made decisions, operated within legislation, used due diligence, and conformed to good practice. Our examination also assessed this key control.

Board relies on CEO

An effective board understands its central role in making good decisions on leadership issues. A board's ability to effectively implement its mandate and move the organization forward depends—significantly—on finding and keeping a competent CEO.

Three governance models

Agencies operate under the following three main governance models. Boards' authority to hire, evaluate and compensate a CEO varies with the model. The underlying attributes of different models are similar. We did not assess whether one model is more appropriate than another. The models are:

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[1] The report is available on the Agency Governance Secretariat website at http://alberta.ca/home/729.cfm.

1. The board has full authority to select, evaluate and compensate the CEO. Alberta colleges and universities use this model.
2. The board recommends a CEO candidate and compensation to the minister for approval by the minister or the Lieutenant Governor in Council. The board evaluates the CEO. ATB Financial uses this model.
3. The CEO is a department employee. The board works with department officials to recommend decisions to the deputy minister, who has final authority in all three areas. Child and Family Services Authorities use this model.

Why this is important to Albertans

Agencies affect all Albertans

Services offered by agencies affect all Albertans. They rely on agencies to protect the public interest in many business sectors. CEOs are the primary contact between agencies and their governing body, the board. CEOs are often the public face of an agency. They set the tone for an agency, with a key role in developing strategic direction, advising the board, and overseeing operations. CEOs strongly influence the quality of programs and services that agencies deliver.

CEO selection is most important

A board's most important decision in terms of a CEO is selection. Evaluations help improve CEO performance. Compensation, while of much public interest and comment, attracts, motivates, and retains a CEO.

Boards answer to Ministers

Boards are accountable to Ministers. Albertans rely on Ministers to ensure boards fulfill their governance responsibilities, including selecting, evaluating, and appropriately compensating their CEO. An effective accountability process is vital to ensure that agencies are well governed, and Albertans are well served.

What we recommended

Government role: guide and train boards and hold them accountable

The government has a role in helping boards implement policies and systems that conform to good practice. It can do this through guidance (recently made more accessible with the new Agency Governance Secretariat) and training. Government ministers must hold boards accountable. To do this, they need information from boards. The following steps will improve support to boards and help ministers hold boards accountable:

Government to provide guidance

- Government needs to provide guidance to agencies and departments in the areas of CEO selection, evaluation and compensation.

Agency Governance Secretariat to get information from agencies

- Agency Governance Secretariat, on behalf of Ministers, needs to obtain annual information from agencies on CEO evaluation and compensation processes to assess if good practices are consistently followed. This will help ministers hold boards accountable for their decisions.

Treasury Board role: improve disclosure

The Ministry of Treasury Board needs to consider improving public disclosure of CEO compensation by applying new disclosure requirements for private-sector compensation to the Alberta public sector.

Boards need to improve systems to select, evaluate, and compensate CEOs by:

- preparing and adopting integrated CEO recruitment and succession policies and plans. Boards need current position descriptions for CEOs and should review them annually.
- conducting annual, comprehensive evaluations of their CEO's performance.

Use formal compensation policy

- preparing and adopting a formal executive compensation policy for CEOs. The policy should require the compensation committee's decision and rationale on CEO compensation to go to the full board for approval. It should also provide clear direction for calculating variable pay[2].

Base target compensation on comparator group

- setting the target for CEO compensation using a peer-group comparison, and being consistent with good compensation practices. Boards should provide clear reasons for adjustments beyond the target and use a comparator group that meets the following criteria:

Use broad comparator group

  - The make-up of the CEO peer group should be broad-based to include comparators of similar size and complexity, locally, or from a different industry that the agency may have recruited from or lost executives to recently.

Consider public-sector CEO rates

  - The comparison should include data on Alberta public-sector CEO compensation rates to ensure that recommended compensation is fair to the CEO, the board, stakeholders and Albertans.

Include at least 12 agencies in group

  - The comparator group should be large enough to provide sufficient information—when possible, at least 12 organizations.
- ensuring that external CEO compensation advisors report directly to the board or the appropriate board committee.

Ensure no conflicts of interest

- receiving full information on the nature of any current or prior (within the past 12 months) work performed by management advisors, along with their fees, and then assessing whether the consultant is free of conflicts of interest.

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[2] Variable pay is known as pay-at-risk, bonus or incentive pay

2. Audit objectives and scope

Are systems to hire, assess and pay agency CEOs working?

Our objective was to determine if the systems, including relationships with departments and Ministers, used in the Alberta public sector to select and evaluate CEOs for agencies, and to set CEO compensation, are working satisfactorily. For this audit, "working satisfactorily" means meeting the criteria in this report.

How we selected agencies for audit

We selected 61 agencies in this audit (see Appendix A) from the ones on the Board Governance Review Task Force Agency Inventory—October 2007. The 61 agencies selected are all board governed organizations that operate under the leadership of a CEO. In all subject areas, we considered systems employed by relevant board-governed organizations and, if appropriate, related government departments. For the compensation part of the audit, we also examined public disclosure.

Our actions

To perform the audit, we:

1. reviewed information on practices in other Canadian jurisdictions.
2. reviewed board-governance literature on topics covered by the audit.
3. used a questionnaire to obtain, from all organizations in the audit, information on CEO selection, evaluation and compensation systems.
4. examined information used to decide which organizations to interview.
5. interviewed key members of the board, CEOs, and relevant department officials of selected organizations.
6. interviewed or received written responses to enquiries from government departments in the same ministry as the agencies included as part of the audit.

3. Background

Board members appointed

Board-governed agencies are authorized under legislation to deliver a wide range of services. In all cases, either all or a majority of board members are appointed by the Lieutenant Governor in Council or a minister to oversee the delivery of high quality services according to agency mandates. The ability and capacity of agencies to deliver services is directly affected by the CEO chosen to lead them. As a result, we have examined the systems that agencies have established to select and evaluate their CEO and to determine CEO compensation. Oversight of the CEO is a significant governance responsibility of boards.

At a Crossroads report considered

The report, *At a Crossroads,* issued by the Board Governance Review Task Force included recommendations specific to the topics this audit covers. We considered the Task Force's recommendations and any proposed action by the government in formulating recommendations to improve any system deficiencies the audit identified.

Focus of our review: board systems to hire, assess and pay CEOs

Our audit focused on the systems that support the responsibility of agencies in recruiting, evaluating and compensating their CEOs. Such systems are fundamental to good governance and require agencies to use a thoughtful and comprehensive approach so that the ultimate decisions are supportable and sensitive to government expectations. Thus, we examined the basis for such decisions, whether or not a planned approach was used, how clearly expectations and criteria were identified in terms of processes used, and whether the processes resulted in a sense of full board ownership.

4. Conclusions

System quality varies with agency

The scope of our audit was sufficiently broad for us to conclude that agencies need guidance on meeting good practices in selecting, evaluating and compensating CEOs. Now that the Agency Governance Secretariat is established, the government is well-positioned to provide the guidance that agencies need to assess whether they are meeting today's good practices and to bring all agencies to a minimum standard. For CEO selection, evaluation and compensation system changes to take hold in individual agencies, and for accepted practices to be maintained in the Alberta public sector, requires three distinctly separate, yet interrelated, actions: clear guidance; agency self-assessment; and evaluation of the quality of the accountability information provided to ministers.

5. Recommendations

5.1 Guidance

Recommendation No. 1

We recommend that the Deputy Minister of Executive Council through the Agency Governance Secretariat assist agencies and departments by providing guidance in the areas of CEO selection, evaluation and compensation.

Criteria: the standards we used for our audit

Role of government

Government (Executive Council, Departments and Corporate Human Resources) should establish and communicate policies and practices for selecting, evaluating and compensating CEOs. Systems within government (Executive Council, Department and Corporate Human Resources), should conform to the principles in our criteria.

Our audit findings

Government guidance would help

Guidance—we did not find comprehensive government guidance to agencies on CEO selection policies and practices, CEO evaluation, and compensation matters. Given the variety of approaches taken, such guidance would produce an overall improvement in these systems.

Selection systems we expected

Policies and plans missing

Systems to select CEOs—we expected that boards would state—through policies and plans—the approach they will take to select a CEO and manage succession. We found that boards, particularly outside the post-secondary education sector, did not establish policies and plans for selecting a CEO. Also, boards' focus on succession was on emergency replacement of the CEO.

Full boards not always involved in decision

Boards that selected a CEO in the last few years typically used recruitment professionals, identified appropriate candidates, and used due diligence in evaluating candidates. However, in a few cases, boards as a whole were not sufficiently involved in the final decision.

Evaluation systems we expected

Systems to evaluate CEOs—we expected systems to require a consistent, annual comprehensive evaluation of the CEO. These systems should provide both qualitative and quantitative feedback on CEO performance, considering relationships with key stakeholders, achievement of board-approved business plans and characteristics such as leadership and board relations. We also expected that evaluations would be anchored in a clearly defined and current position description.

Systems did not meet expectations

All boards did some evaluation. However, some boards do not have their appraisal approach in policy, some approaches did not require a comprehensive evaluation, and others vary from year to year. Systems that did not require a comprehensive evaluation did not consider relationships with key stakeholders or characteristics such as leadership. Also, few agencies had current CEO position descriptions.

Evaluate performance

Using a current CEO position description, together with the board's targets, significantly improves the quality of evaluation. Improved evaluations will also help boards make annual compensation-adjustment decisions related to performance.

Compensation systems we expected

Systems to determine CEO compensation—we expected that Boards would receive objective, relevant information on compensation trends that balanced the reality of their industry and that of the Alberta public sector. Skilled professionals would develop this information and be free of conflict of interest in doing so.

Comparator groups not diverse

Possible conflicts with consultants

Most boards where the CEO was an employee of the agency used peer-comparator models to assess market trends. However, not all peer groups were sufficiently diverse. Also, in a few cases, the target rate for compensation was in the upper quartile of peer groups. Consultants contracted for these services also delivered other services to agency management, increasing the risk of undue influence from management. In other cases, human resources departments that reported to the CEO developed the data.

Wide range of benefits for CEOs

We found a wide range of benefits provided to CEOs, particularly, termination benefits and supplemental retirement plans. As expected, the form of variable-pay model used varied. In some cases, the rationale for the selected variable-pay model was not clear. And the full board was not always involved in the compensation decision.

Implication and risks if recommendation not implemented

If CEO selection, evaluation and compensation guidance is not provided, the quality of decisions by boards of directors in this area will continue to vary across the Alberta public sector and may not be appropriate.

5.2 Accountability

Recommendation No. 2

We recommend the Agency Governance Secretariat, on behalf of Ministers, annually obtain information from agencies on CEO evaluation and compensation processes to assess if good practices are being consistently followed. The results of these systems assessments should be reported to Ministers, who should then hold boards of directors accountable for their decisions.

Background

Board members accountable to minister

Ministers need information

The majority of provincial agencies' board members are appointed by the government and are fully and formally accountable to the relevant minister. Ministers need information to fulfill their duty to hold the board accountable. The information needed by a minister may come directly from a board chair, through the department or through the Agency Governance Secretariat. In part, board chairs meet their obligations through formal documentation, such as a memorandum of understanding requiring the filing of business plans and annual reports. They also informally advise the Minister on critical matters as these arise.

Government established Agency

Recently the government responded to the 2007 report, *At a Crossroads*, by establishing the Agency Governance Secretariat in the Department of Executive Council, under the Deputy Ministry of Executive Council. The Report stated

Governance Secretariat to improve governance

that the Secretariat should provide coordination and overall support, and promote continuous improvement in good governance. The Secretariat has issued polices and guidance on a number of governance subjects since inception. These, and other information, are available on the Secretariat website (www.alberta.ca/home/729.cfm).

The systems we examined operate within the broader definition of roles and responsibilities for the minister, department, and agency. As part of the response to the report, *At a Crossroads*, the government issued the Public Agencies Governance Framework. The government comments on roles and responsibilities in Section 5 of the Framework, where it says that, "Clear statements about roles and responsibilities that are reviewed and regularly accepted by the highest level of agency and ministry are essential for good governance." We agree—our recommendations assume that this framework will be implemented.

Criteria: the standards we used for our audit

Ministers should hold boards accountable for CEO selection, evaluation and compensation decisions. Government should obtain and evaluate information on CEO selection, evaluation and compensation systems to support Ministers. Provincial agencies should provide Ministers with relevant information.

Our audit findings

Extent of government's involvement in agency systems to select, hire, pay CEO varies

The government's involvement varies considerably in CEO selection, evaluation and compensation. For example, boards of post-secondary education institutions are empowered to select, evaluate and determine compensation for the CEO. In the case of child and family service authorities, the deputy minister has the final say on selecting and evaluating CEOs and setting their compensation. It is a policy choice of the government as to how much power to delegate to a board.

Ministers hold boards responsible

Ministers are responsible to hold boards accountable for their decisions, including decisions to select, hire and pay their CEO. Greater delegation of authority requires stronger accountability. This does not mean that the Minister takes on the role of the Board. Instead, it means that questions will be asked and meaningful answers are expected. Boards must feel that they will be held accountable for their decisions, including decisions to select, hire and pay their CEO. In the private sector, shareholders have exercised their authority as owners to improve board accountability. In the public sector, the minister is the proxy for the shareholder (the taxpayer).

Minister represents public

Agencies not clear on type or frequency of contact to have with government

A number of agencies are unclear on how significant their linkage to the government is (or should be) and thus how frequently they should be in contact and on what issues. Agencies are instruments of government policy, created to deliver government services that the government decided were better delivered by an agency than a department. Only some agencies felt that regular contact with the government on CEO selection, evaluation and compensation was appropriate.

Two departments take no role in CEO selection, evaluation and compensation

The departments of Advanced Education and Technology, and Health and Wellness told us that they had no role in agency CEO selection, evaluation, and compensation. They do not routinely receive information on the full CEO compensation arrangements, relying instead on salary disclosure in financial statements. During the course of the audit, we learned that the Department of Health and Wellness asked for and received copies of the then CEO contracts.

One department more involved

The Department of Finance and Enterprise has five agencies which were included in our audit. Its minister support systems allowed it to advise the minister about CEO selection, evaluation and compensation decisions.

Both government and agencies need to clarify expectations for dealing with CEO

Considering the responses to our questionnaire and interviews, we conclude that work is required by both the government and agencies to ensure a clear understanding of expectations for CEO selection, evaluation and compensation. The understanding of some boards of agencies, or their CEOs, of what they should report to the Minister was at odds with effective accountability to the Minister. Some of this occurred over time, as agencies are trying to find their own way. Boards can exercise considerable independence while still meeting their obligations for accountability to the Minister through their ongoing reporting of relevant issues, such as CEO selection, evaluation, compensation.

Agencies frustrated with lack of central support

In a few cases, agencies highlighted frustration with the lack of any central support for newly created boards or objective compensation information. A recently established board, whose operations were previously part of a department, stated that it had little notice of the creation of the agency. Further, the agency was established with limited organizational infrastructure. As a result, it has spent considerable time just setting up administration, in addition to meeting core responsibilities. Two years after start up, it is only now starting to develop a full range of board policies. Other organizations stated that they found it hard or expensive to acquire comparative and reliable compensation data.

Implication and risks if recommendation not implemented

Without uniform independent assessments of the quality of agencies' CEO evaluation and compensation systems, Ministers may not hold agencies to a common standard of practice.

5.3 CEO compensation disclosure

Recommendation No. 3

We recommend that the Treasury Board consider applying the new private-sector compensation-disclosure requirement to the Alberta public sector.

Background

Treasury Board directive requires disclosure of compensation

Treasury Board Directive 12-98 requires Alberta public-sector organizations to report executive compensation and prescribes the form of the disclosure. Recommendation 13 in, *At a Crossroads*, the Report of the Board Governance Review Task Force, stated that "Remuneration of directors and CEOs should be disclosed to the public."

Disclosure started in 1990s

Salary disclosure started in the mid-1990s in the Alberta public sector. Since then, the required form of report has changed several times. One key change was to model it more closely to the form of reporting in the private sector.

Private-sector disclosure proposal

On February 22, 2008, the Canadian Securities Administrators issued a proposed new statement on executive compensation, to come into effect on December 31, 2008. The statement requires significantly enhanced disclosure of private-sector executive-compensation arrangements for publicly listed Canadian companies. Key elements of the disclosure require stating:

- the objective of the compensation plan.
- what the compensation program is designed to reward.
- each element of compensation.
- why the organization choose to pay each element.
- how the organization determines the amount (and, where applicable, the formula) for each element.
- how each element of compensation, and the organization's decisions about that element, fit into the organization's overall compensation objective and affect decisions about other elements.

Disclosure improves accountability

The underlying principle of the Treasury Board Directive is improving an organization's accountability for the compensation decisions and increasing the transparency of these decisions. Salary disclosure is also used by others to compare with their own compensation practices.

The Treasury Board Directive requires salary disclosure to be included in the annual financial statements of organizations. As a result, the salary disclosure is examined as part of the annual financial-statement audit.

Criteria: the standards we used for our audit
Compensation reported in financial statements should be complete and accurate.

Our audit findings
We examined the salary disclosure information for the 2007 fiscal year and considered it in context of employment arrangements with CEOs.

Variable pay disclosure

In a number of cases, compensation packages included a variable pay component. The current Treasury Board Directive does not require disclosure of the organization's underlying variable pay philosophy or a description of the variable compensation arrangement.

Pension plan disclosure

The pension or supplemental retirement plans requirement in the 2007 salary disclosure does not contain sufficient information to allow full accountability or comparison among agencies. For example, a number of agencies provide the CEO with two pension plans: a public-sector plan and a supplemental retirement plan. Expanded reporting is required only for the supplemental plan. Where a CEO is not part of a public-sector plan, some agencies provide the CEO with a unique plan normally defined in the contract or by board policy. It is not clear in the required disclosure that this plan differs from other supplemental retirement plans, even though it is reported under this heading.

Termination benefits disclosure

A number of contracts provide for benefits to be paid to a CEO on termination. In some cases, a benefit is to be paid even if the CEO initiates the termination. Termination benefits were frequently calculated as a factor of base salary; in other cases, they included a calculation for benefits. In at least one case, it included an estimate of the average bonus. The Treasury Board Directive does not require disclosure of a CEO's entitlement to termination benefits or the amount of the benefits.

Unique benefits disclosure

CEOs may receive benefits in the form of a special mortgage arrangement. In one case, the agency agreed to cover a loss on the sale of the CEO's home. While salary disclosure requires the reporting of either non-cash or other cash benefits, if there is a current-year cost, these unique benefits are not sufficiently described in the financial statements.

Salary disclosure does not allow full accountability or comparison

In our opinion, current salary disclosure does not provide for full accountability or comparison. Updating the Directive to consider the new private-sector standards will allow all aspects of a CEO's compensation and their costs to the organization to be presented in a single, easy-to-read statement. This will ensure that stakeholders understand the total compensation provided.

Inconsistencies in reporting

Financial-statement disclosure notes vary. In at least two cases, disclosures exceed the requirements of the Directive. For health authorities, the 2007 disclosure did not comply with the Directive; this was corrected in 2008. We noted some reporting inconsistencies in the category headings where bonuses and honoraria are reported as part of "Salary" or separately under "Other Cash Benefits". Where bonuses and honoraria were combined with base salaries under the heading of "Salary and Honoraria", the aggregated numbers could be misinterpreted as base salary by anyone who uses the number as a comparator to assess a CEO's salary.

Vacation credits can inflate salary and impede accurate comparison

Also, if a CEO received a substantial cash-out for unused vacation credits in a year, this amount would skew or inflate the CEO base salary or cash compensation. This misrepresentation could affect CEO salaries given that a number of boards and CEOs use the salary disclosure data as the authoritative source of market data for their peer groups in Alberta. It was not surprising, therefore, that several chairs expressed a concern with the reliability and comparability of salary-disclosure information.

Implication and risks if recommendation not implemented
Boards will not be held accountable for their decisions and may agree to inappropriate arrangements. Users of the information will not have sufficient information to properly evaluate compensation arrangements and may make inaccurate assessments.

6. Recommended practices

These recommended practices are not presented as recommendations since the Office of the Auditor General does not expect a formal response from government.

Systems used to select, evaluate, and compensate CEOs varied in quality across the organizations we examined. We believe that each agency should examine their CEO selection, evaluation and compensation systems and the recommended practices to decide if those systems could be improved.

6.1 Selection of CEO

Recommended practices

Boards of directors of provincial agencies should adopt integrated CEO recruitment and succession policies and plans.

Boards of directors of provincial agencies should ensure that current position descriptions exist for the CEO and that they review the CEO position description annually.

Background

CEO as only board employee

Governance principles hold that the CEO is the only employee of the board. This is based on the belief that organizations perform best when there is a clear separation between the policy-setting and oversight functions of the governing body, and the administrative tasks, including accountability for and supervision of employees, of the organization. As a result, CEO selection is a critical responsibility of a board. The selection of the CEO sends a message to staff and stakeholders about the direction the organization plans to take. The CEO is expected to work closely with the board to define the strategic direction of the organization, and the board then holds the CEO accountable for realizing the organization's plans.

Boards use system to find candidates

Boards use a system or process to identify and evaluate prospective candidates. In the Alberta public sector, the more autonomous boards establish and run their own process. In other cases, where the CEO is selected jointly by the board and deputy minister, the process may be developed by the government's Corporate Human Resources group.

Boards have to ensure system for succession

Boards are also responsible to ensure that an appropriate CEO succession-management system is in place. Succession includes being able to appoint an immediate replacement, typically in an acting capacity. Also, it includes developing internal candidates for the CEO position. An effective succession policy and plan, based on appropriate training and development plans, will train current employees to compete.

Criteria: the standards we used for our audit

The selection system should identify the most appropriate candidate.

Policy to identify and assess candidates

a) A recruitment policy should be established to objectively identify and evaluate candidates. The board role must include confirming criteria for assessing suitability of candidates and confirming selected candidates or recommending candidates to the appointing authority. Policy should require establishing:

   i) criteria, setting out skills and attributes of a CEO, to assess suitability of candidates.
   ii) an objective process to evaluate candidates.

Process

b) The process should be consistent with any succession plan for the CEO.
c) The policy should be followed in the recruitment process.

CEO contract

d) The CEO contract, which sets out the Board's expectations of the new CEO, should be consistent with criteria the board set.

Our audit findings

Most agencies lack recruitment policies and plans

Recruitment policies and plans—most agencies in our audit that select a CEO do not normally establish recruitment polices or plans. Those with policies and plans are typically post-secondary education institutions. These plans are typically comprehensive, inclusive of various stakeholders and formalized.

Chairs don't see need for policy and don't want to bind future boards

In interviews, the majority of board chairs stated that they did not see the need to prepare a policy or plan until the board needs to replace the current CEO. A few board chairs argue that creating a policy would bind a later board, which they believe should not be constrained since they must make decisions based on current needs. However, all policies need to be reviewed periodically for relevancy. Many chairs pointed out that the contract required the CEO to give notice of a decision to leave far in advance of the departure date, in some cases, as much as 12 months. And this allows time to deal with the matter. But it does not replace the need for a board policy or plan.

Preference to deal with recruitment on ad hoc basis

The board chairs we met who had recruited a CEO in the last few years stated the importance of an open competitive process. Such a process allows them to assert that the appointment was based on merit. When we asked boards with a long-standing CEO what they would do when the need arose, they said that they would pull together the information from the last recruitment or they speculated on a typical process. All had a sense of what they would do, and a policy preference. Articulating the board's position through a policy and plan informs a future board of the current board's view. It allows lessons learned from a current recruitment to be passed on. Also, it informs stakeholders and staff of the board's position on this important subject.

Process should explain benefits of a plan

HR professionals used—board's role varies considerably

In all cases where a CEO was recently selected, the board used a recruitment professional. Autonomous boards employed external consultants. Agencies, where the board recommends an appointment, typically use Corporate Human Resource's Executive Search branch or a departmental human resources division. The use of professional assistance is a good practice. However, considerable variation occurs as to when and how the whole board is involved.

In some cases, the board ratifies the recommendation of a committee. In others, a board interviews final candidates and decides on the appropriate candidate.

Department process used when agency and department work together

When an agency and department shared the task of selecting a CEO, the policies and process followed were those used by the government for recruiting departmental executives. However, there was considerable variation in the practices among boards, particularly, the role of the board in the decision-making process. In some cases, the decision was made by the chair and the deputy minister. In other cases, the full board made the decision with the deputy minister. In one case, the board proposed the short list and delegated the rest of the task to a board committee.

Whole board—not committee—should decide on CEO

In all cases, regardless of the process used (delegating selection responsibility to a board committee) the board as a whole should decide who is to be hired whether under its own authority or as a recommendation to the Deputy, or the Minister. This is arguably the most important task of a board. A clearly articulated policy and plan should set out how the board as a whole will be consulted and if it is to have a greater role, such as interviewing short-listed candidates.

Boards have policy on emergency replacement of CEO

Succession policies and plans—most boards we examined have considered the question of succession. In virtually all cases, they have determined how they will react to an emergency need to appoint an acting CEO. Most have a policy on it. However, few have required management to implement planned processes to develop internal staff to compete for the CEO position. We found, in some instances, thoughtful approaches. These typically start with articulating a policy, and requiring the CEO to report on progress to the Human Resources Committee or equivalent. A good succession policy integrates with the recruitment policy, while recognizing that most boards endorsed open competitions as the preferred recruitment process. In our opinion, a policy and plan which places the emphasis on staff development rather than just the designation of an apparent successor are needed.

Various contracting practices

Fixed term

Contracts state expectations—different approaches were taken in contracting with the successful candidate. The most common is that of entering into a contract which covers a fixed term, such as 5 years. Usually this contract allows for renewal. In a few cases, the agency implemented a rigorous process to support the decision to enter into a new or extended contract. In these cases, the process was normally set out in policy.

Open term

A second approach is to enter into a contract that has no time limit or allows for automatic renewal. Boards argued that this approach allows for a longer-term commitment by both parties and permits compensation commitments unique to the CEO.

Boards have flexibility

The different approaches used show the flexibility boards have. A board can use a board-driven strategic view as to how it will formalize its CEO selection.

Board expectations of CEO often not specified in position description

Expectations of a CEO—The CEO contract should set out what the board will expect of the new CEO. Most contracts referred to expectations of a CEO, though many were general. Some boards had position descriptions setting out expectations of the CEO. However, in a majority of cases, the expectations of the CEO position were not set out in a position description. When we asked for the position description, we were given the position profile developed to support the most recent recruitment. In some cases, these were several years old.

Position descriptions set out the expectations of the CEO, support CEO performance evaluation, and assist in preparing recruitment documents. A position profile, though useful to the recruitment process, does not negate the need for a comprehensive position description.

Implication and risks if recommended practices not followed

Lack of clearly articulated, integrated policies and plans on CEO recruitment and succession could result in the best candidate not being selected. Without clearly articulated expectations based on a comprehensive approach to developing position descriptions, a board will probably find it more difficult to assess CEO performance.

6.2 Evaluation of CEO

Recommended practice

Boards of directors of provincial agencies should conduct an annual comprehensive evaluation of their CEO's performance.

Background

Board assesses CEO

A critical role of the board is evaluating CEO performance, which serves several useful purposes, such as

- assessing the CEO's performance against the position description and board targets.
- evaluating the relationship of the board with the CEO and the areas for improvement in that relationship.
- evaluating the relationship from the CEO's perspective.
- reviewing current and future targets for the CEO.
- discussing organizational health.

- developing personal plans.

Effective CEO evaluation is a cornerstone of good governance.

Criteria: the standards we used for our audit

CEO needs Board feedback

Evaluation—the system should provide timely relevant feedback on performance of the CEO.

a) Policy should be established to set out the process for evaluating CEO performance and to provide a mechanism for delivering the evaluation. The process established by the policy should highlight the need to:
   i) prepare the CEO personal-performance plan, which conforms to the contract, expectations of the board and any other relevant party.
   ii) allow for input from all board members.
   iii) allow for input from other parties such as department officials, other managers and stakeholders.
   iv) measure performance against relevant criteria, and the CEO performance plan.

Evaluation should link back to expectations

b) Evaluation communicated to the CEO should be consistent with expectations of CEO as set out in contract, annual personal plans and information on CEO performance.
c) Development opportunities in later personal plans should be consistent with the evaluation.

Our audit findings

Boards assess CEO performance but often not comprehensive

All boards carried out a form of evaluation of their CEO, though a number were not comprehensive. Many stated the need for an annual evaluation in the CEO contract. Most boards have the evaluation system set out in a policy. Others simply state that one is needed and still others make no policy reference to an annual CEO appraisal.

Employee CEOs subject to department system

When the CEO is a department employee, the evaluation system is generally based on what government departments use for staff. These systems had many of the characteristics of a good system. In all cases, these department systems were adapted to allow an opportunity for the board to provide input. Each board was free to determine how it gathered this information, so the processes varied.

Much variation among boards

When the board has exclusive authority to establish and perform the evaluation system, the approach taken varied considerably among boards. Following are examples of systems:

Examples of systems boards use

1. The board established an evaluation system based on good practice. It includes a 360° survey, personal performance plans, and board members contributing to the evaluation.

2. Many boards reported that their system included feedback to the CEO during the year—formal or informal, provided by the Board or the Chair.
3. Some boards focused exclusively on the organizational plan to assess CEO performance.
4. Certain boards, rather than doing an evaluation as a board, delegate the task to a board committee or to the board chair. In some cases, the evaluation goes to the board for discussion before it goes to the CEO. In a few cases, the board as a whole is not involved in the process.
5. In a few cases, the approach to CEO evaluation is determined each year by the board chair or a committee. The information is then gathered and a document is prepared by the board chair or a committee. In these cases, CEO performance plans were not prepared.
6. Results of the CEO evaluation may be presented to the CEO by the board chair and committee chair, or the board as a whole.

Most boards review CEO objectives

The majority of boards reviewed the CEO's objectives or the board's business-plan objectives. While considering such matters as achieving stated objectives is obviously critical and central to the process, the level of confidence and trust by the board in the CEO generally underlies any other consideration. When we interviewed board chairs, we asked them if they had asked members if they (members) had trust and confidence in the CEO. In virtually all cases, the board chair did not ask board members this question.

Trust in CEO not questioned

Some post-secondary institutions rigorously review CEO performance

In the post-secondary education sector, we observed that some institutions require a rigorous review of CEO performance before renewing the contract. The process that post secondary institutions use is generally more rigorous than other organizations use. In our opinion, it shows the importance of the decision to extend a contract, which is analogous to the hiring decision.

In only one case, the chair stated that they routinely used external expertise to assist in the evaluation.

Feedback to CEO in various forms

We observed that feedback to the CEO was delivered by one board member (typically, the chair), 2 members (typically, the board chair and a committee chair), by the committee responsible for the evaluation, or by the board chair in the presence of the whole board. In our opinion, the key to the process is not the number of board members present, but to ensure the evaluation is owned by the board as a whole. However, at a minimum, at least two board members should conduct the feedback session. This reduces the potential of partiality or bias that may occur in a one-on-one session.

Whole board should own the evaluation

Implication and risks if recommended practices not followed
The absence of effective, comprehensive CEO evaluation systems may result in ineffective performance by agencies and failure to achieve goals.

6.3 Compensation of CEO

Recommended practices

Formal CEO compensation policy

Full board approval

Boards of directors of provincial agencies should prepare and adopt a formal CEO compensation policy. The policy should require that the board committee that deals with CEO compensation forward its decision and rationale to the full board for approval. The policy should provide clear direction on determining all elements of total compensation, including variable pay and pension arrangements.

Peer group for comparison

Boards of directors of provincial agencies should set the target for CEO compensation by comparison with a peer group consistent with good compensation practices. Any recommended adjustment beyond the target should be supported by a clear rationale.

Boards of directors of provincial agencies should ensure that the comparator group used meets the following criteria:

Broad group

- The make-up of the CEO peer group should be broadly-based, include comparators of similar size and complexity, local organizations or from a different industry that the agency may have recruited from or lost executives to recently.

Public-sector comparison

- The comparison should include data on Alberta public-sector CEO compensation rates (as provided by the Deputy Minister of Executive Council) as a reality check to ensure that the recommended compensation package based on market peer comparison is fair to the CEO, the board, stakeholders and Albertans.

Large group

- The comparator group should be large enough to provide sufficient information, and when possible, include at least 12 organizations.

External advisors

Boards of directors of provincial agencies should ensure that external CEO compensation advisors report directly to the board or the appropriate board committee, and fully disclose the nature of any current or prior (within the past 12 months) work performed for management along with the fees. Directors should assess whether the consultant is free of conflicts of interest. The result of this assessment should be recorded in the minutes.

Background

No one model to set CEO compensation

Boards decide on the compensation for a CEO when the CEO is first hired and each year after. Boards balance the demands on the CEO with fiscal responsibility. Each year, Boards invest considerable effort deciding the appropriate adjustment for executive compensation. Also, each year many independent studies comment on executive compensation trends. In making the compensation decision, boards consider such factors as the:

- performance of the CEO.
- demands of the position.
- risks inherent in the decision-making of the CEO.
- history of the board and its past judgments on CEO compensation.
- competitive marketplace.
- impact of salary, benefits, variable pay and other compensation.

Many arrangements

Compensation arrangements include a wide range of differing approaches and benefits. For example, arrangements may include:

Base pay

- Annual base salary.

Variable pay

- Variable pay (generally takes the form of an annual lump-sum payment called a bonus); may also be called pay at risk, performance pay or incentive pay.

Benefits

- Employee benefits
    - Normal items such as pensions, insurance, medical coverage, long term disability, vacation, etc.
    - Other items such as reimbursement for spousal travel, mortgage subsidy, car and training allowance.

Termination pay

- Termination payment
    - if CEO is terminated without or with cause, and if CEO initiates the termination.

Peer group for comparison

The normal approach for a board is to obtain information on compensation arrangements in a selected group of organizations (the peer group). Many boards hire compensation consultants to gather the peer-group information and provide advice. However, the compensation decision must be made by the board using its best judgment. The factors underlying these judgments differ from case to case and year to year. Therefore, compensation paid to one CEO may differ considerably from that paid to another.

Fairness of compensation important

The fairness of the compensation arrangement relates to the appropriateness of the process used to reach it and the rigor of board discussion in assessing that the arrangement is fair to the CEO and the agency. The dollars involved are considerable compared to salaries paid to most people. In the end, the key question is whether the board's approach to setting its CEO's compensation, and the resulting compensation, is fair and reasonable.

Criteria: the standards we used for our audit

Compensation—the system should determine fair compensation for the CEO.

Board should set policy

a) The board should establish policy for setting compensation or recommending compensation to the appropriate authority. Compensation policy should be reasonable and require an annual compensation adjustment, determined by the appropriate authority, to be based on evidence, and consistent with the CEO contract, performance, market, and relevant Alberta public-sector policies and practices.

CEO contract should cover all elements

b) The contract with the CEO should contain all elements of the compensation package. It should accurately describe the annual adjustment process and compensation should be consistent with the CEO contract.

Our audit findings

Criterion (a) is partly met; criterion (b) is met. In section 5.1 of this report, we make a recommendation directed to the government for it to improve guidance on subjects covered in this section. This guidance will help boards.

One-third of agencies lack clear policy

Three approaches:

Compensation policy—about a third of agencies did not have clearly articulated compensation policies. In addition, the approaches to determine compensation are quite divergent. These approaches fell into the following three categories:

Tied to deputy minister pay

1. A number of Boards with the responsibility to determine CEO compensation decided to benchmark the CEO compensation arrangement and annual adjustment to deputy ministers' compensation.

Consultant gives advice

2. Other Boards with the responsibility to determine CEO compensation have articulated compensation policies, employ a Human Resource and Compensation Committee to undertake a compensation analysis, and normally engage the assistance of external compensation consultants to provide market data analysis and advice.

Employee pay scale used

3. Agencies where the CEO is an employee of the department conform to the Alberta government compensation policy and processes.

Lack of policy a concern

The lack of a clear policy in agencies that have the duty to determine their CEO's compensation is a concern. As discussed below, we are particularly concerned with practices for variable pay, CEO severance provisions, market analysis (peer group comparison), and supplemental retirement plans.

Some decisions made only by chair or committee and reported to board

In most agencies, the board authorized the annual compensation adjustment. In cases where a minister or the Lieutenant Governor in Council is to approve the recommendation, they did. Normally, this was on the recommendation of a board committee. However, in some cases, the decision was made by the chair or a committee and only reported to the board as information. In our opinion, setting and recommending compensation are fundamental governance responsibilities that should be made by the full board. Policies should explain how the board decision will be made.

Large range of variable pay

Variable pay—variable pay is another area of considerable variety. In many cases, CEO compensation includes variable pay. In other cases, agencies disagree with the philosophy of this form of compensation. This is due to the differing nature of agencies, sector practices, and compensation philosophies of boards and CEOs. Some boards establish performance measures as the basis for CEO performance bonuses; other boards do not have any objective criteria for granting bonuses to CEOs, and as a result, the amounts can be automatic or arbitrary.

Examples

Examples of different arrangements are:
- An agency's variable pay is tied to the evaluation process, which started with a performance plan that includes clearly defined targets.
- An agency used performance to determine CEO variable pay as it did for all staff.
- A board used a subjective assessment based on a performance appraisal and organizational success.
- A Board used variable pay to show its support for the CEO.
- The variable pay was needed to ensure that the overall CEO compensation package was considered by the board to be more reasonable.

Factors if variable pay used

In our opinion, boards need to carefully consider if variable pay is appropriate. If they decide to use it, they should:
- identify and articulate the purpose of the plan—is it to reward individual performance, share in organizational success, or a blend of the two?
- develop an objective verifiable methodology for setting the annual amount.
- establish targets that are challenging and represent real measurable change. Also, exceeding expectations should require effort that is far beyond what is ordinary.
- stick with the methodology whether the result is positive or negative.

Key part of CEO compensation package

CEO severance provisions—these are a key part of CEO compensation packages. Forty-nine of sixty-one CEOs of surveyed agencies have severance provisions in their contracts. The remaining 12 did not report any information on severance to us. Severance provisions vary widely from 3 to 30 months. Most common is 12 months.

Includes amount in lieu of benefits

In at least 6 of the CEO contracts, severance pay includes an amount in lieu of benefits. One contract includes an average of two years bonus pay as part of the termination package.

BC comparison

By comparison, the maximum severance-in-lieu-of-notice for CEOs/presidents, deputy ministers, and school superintendents in British Columbia are:

- up to 12 months for 18 to 35 months of service in the position.
- up to 14 months for 36 to 47 months of service in the position.
- up to 16 months for 48 to 59 months of service in the position.
- up to 18 months for 60 or more months of service in the position.

Need for legal advice on severance in lieu of notice

Boards should obtain legal advice before agreeing to severance-in-lieu-of-notice provisions. This advice will help boards understand current common-law standards and potential legal costs. Boards will then need to balance information on costs with their duty to be fiscally prudent and the need to attract good candidates.

Voluntary departure

Some contracts have a provision to pay severance when a CEO voluntarily ends employment. These benefits took a number of different forms. Examples are:

- CEO is paid 12 months base salary, plus benefits and the average of the highest 2 years bonus as a lump sum.
- CEO is kept on salary and receives benefits for a fixed period after leaving (12 to 24 months, depending on terms of service) for "administrative" or "Professional" leave.
- CEO is paid a retirement allowance of $2,000 for each year of service. Contract recognized 36 years of service as the starting point for this calculation.

Severance for voluntary termination

All these arrangements are the product of a negotiation and supported by some rationale from the board chair and CEO. In two interviews, the rationale included the duty to maintain a precedent or the need to provide a retention incentive. In the post-secondary education sector, severance benefits for voluntary termination are in lieu of sabbatical entitlement. We were unable to determine the basis for such a wide variety of practice for voluntary termination benefits.

Compensation based on external comparison

Market analysis (peer group comparison)—the annual compensation decision made by boards on annual pay is based on the contract or policy. In a number of cases, the CEO compensation is adjusted annually by an amount specified in the contract. Some contracts require the amount to match the settlement with a union. In others, it is an amount the board considers appropriate. In these cases, the board arrived at an annual compensation it believed to be fair, just and comparable to similar positions in other institutions or among a peer group. Most of these annual reviews are primarily driven by external market comparisons in some form, meaning that most CEO compensation rates and adjustments are not fully linked to CEO performance, even when boards conduct annual evaluations.

Peer-comparator group

The peer comparator group is a list of outside organizations in a similar business or industry and of a similar size and complexity to the organization in question. This list is used to benchmark executive compensation levels and compare compensation plan structures.

Most boards have list of comparator organizations

The questionnaire responses by the various boards indicates that regardless of whether boards have a formal compensation policy, the majority of boards have a list of comparator organizations, which they have decided is a reasonable comparison group. For example, a list may include similar size institutions for the colleges within Alberta, similar university or healthcare organizations across Canada or internationally, private sector businesses in the same sector, or similar public-sector organizations in other jurisdictions.

Leap-frog effect increases pay continually

The peer group model has been criticized as the cause of continued upward ratcheting in executive pay as organizations strive to leap-frog each other against the ever-increasing median to the 75th percentile pay level.

If the selected organizations for the peer group represent the high payers in the marketplace, then the compensation arrangement may be too generous.

Target salaries above 50th percentile

A recent survey by two national consulting firms in Canada on compensation policies mostly in the private sector shows that target salaries are set largely at the median or 50th percentile among organizations. In two cases, we observed target salaries greater than the median (75% and 90% percentiles). The selection of a target significantly greater than 50% creates the risk of salary inflation.

Consultants and HR people need to avoid conflicts of interest

Independence of compensation consultants—some boards engage external consultants to assist in the CEO compensation-review process. This practice is consistent with good board governance. However, there is uncertainty about the ability of the external consultant to provide independent advice when the same consultant or consulting firm provides compensation advice or other services to the management of the organization. In a number of organizations, compensation information was developed by the human resources staff. These situations present a higher risk of conflict of interest.

Supplementary Retirement Plans—in our *2005–2006 Annual Report*, on page 97, we recommended that the Department of Finance assess the annual and cumulative costs and risks associated with Supplementary Retirement Plans.

Recommendation from 2005–06 not yet implemented

Unfunded plans can take 30–40 years to pay out

This recommendation has not yet been implemented by the Department of Finance and Enterprise. As a result, we again saw a considerable variety of these plans in agencies. The plans represent a cost to each agency, and in aggregate, to the entire public sector. In one case, the annual cost of the plan is equal to the annual salary paid to CEO. In a number of cases, the plans are unfunded and will continue to be a burden on the agencies until all benefits are paid out—30 to 40 years for some plans.

Funding of plans to substantially eliminate financial risks

In 2008, an internal report prepared by the Department of Finance and Enterprise recommended that the Department require plans to be funded to eliminate substantially all the financial risks associated with the plans. Later in 2008, the Department plans to update the internal report and assess its options to establish funding of plans as a good practice for public-sector organizations.

We found that:

- some plans are true supplemental plans—they are in addition to a public sector plan, such as the Local Authorities pension plan; in other cases, they are the only pension plan for the CEO.

Determining pension earnings

- In one case, earnings for pension purposes included variable pay and were based on the average of the highest 2 years. In a typical public sector plan, the pension is based on annual or base pay that excludes variable pay, and uses the average of the highest 5 years base salary.

No contribution needed

- Unlike the supplemental plan for department management, most supplemental plans in agencies do not require employee contribution.

Backdating several years

- Some supplemental plans brought in during the last few years were backdated to the implementation of the pension cap by the federal government in the early 1990s. In one case, the backdating was 28 years at March 31, 2008—even though the CEO joined the organization in 1999. This is in contrast to the plan established for departmental management that started with implementation in 1999.

Indexing

- Some plans did not provide for indexing of annual pension payments. Public sector plans are indexed at 60% of cost-of-living increases.

- One plan will pay the CEO each year, after retirement, $25,000 for each year of employment.

Form of plan complex decision

The form of the pension plan provided to a CEO is a complex and financially significant decision. Boards need both flexibility in designing a plan and guidance in deciding what is acceptable in the Alberta public sector.

Different employment models

CEO contracts—CEOs have different employment models: some are employed directly by the agency, while others are employees of the relevant department. Contracts generally include all compensation components.

Implication and risks if recommended practices not followed
Without appropriate policies and practices, the public sector risks paying too much for CEOs or having difficulty attracting and keeping appropriate qualified people.

Appendix A: Entities included in the audit

Advanced Education and Technology
Alberta College of Art and Design
Alberta Heritage Foundation for Medical Research
Alberta Heritage Foundation for Science and Engineering Research (Alberta Ingenuity)
Alberta Research Council Inc.
Athabasca University
Bow Valley College
Grande Prairie Regional College
Grant MacEwan College
Informatics Circle of Research Excellence (iCore Inc.)
Lakeland College
Medicine Hat College
Mount Royal College
NorQuest College
Northern Alberta Institute of Technology
Northern Lakes College
Olds College
Portage College
Red Deer College
Southern Alberta Institute of Technology
University of Alberta
University of Calgary
University of Lethbridge
University Technologies Group

Agriculture and Food
Agriculture Financial Services Corporation

Children's Services
Calgary and Area Child and Family Services Authority
Central Alberta Child and Family Services Authority
East Central Alberta Child and Family Services Authority
Edmonton and Area Child and Family Services Authority
Métis Settlements Child and Family Services Authority
North Central Alberta Child and Family Services Authority
Northeast Alberta Child and Family Services Authority
Northwest Alberta Child and Family Services Authority
Southeast Alberta Child and Family Services Authority
Southwest Alberta Child and Family Services Authority

Employment, Immigration and Industry
Workers' Compensation Board

Energy
Alberta Utilities Commission
Energy Resources Conservation Board

Finance and Enterprise
ATB Financial
Alberta Capital Finance Authority
Alberta Pensions Administration Corporation
Alberta Securities Commission
Credit Union Deposit Guarantee Corporation

Health and Wellness
Alberta Alcohol and Drug Abuse Commission
Alberta Cancer Board
Alberta Mental Health Board
Aspen Regional Health Authority
Calgary Health Region
Capital Health
Chinook Regional Health Authority
David Thompson Regional Health Authority
Health Quality Council of Alberta
Palliser Health Region
Peace Country Health

Seniors and Community Supports
Persons with Development Disability Community Board – Calgary
Persons with Development Disability Community Board – Central
Persons with Development Disability Community Board – Edmonton
Persons with Development Disability Community Board – Northeast
Persons with Development Disability Community Board – Northwest
Persons with Development Disability Community Board – South

Solicitor General and Public Security
Alberta Gaming and Liquor Commission

Sustainable Resource Development
Natural Resources Conservation Board

Information technology control framework

Background

In our *April 2008 Report* (page 170), we made the following recommendation:

Previous recommendation

We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through CIO Council, develop and promote:

- ***a comprehensive IT control framework, and accompanying implementation guidance, and***
- ***well-designed and cost-effective IT control processes and activities.***

A detailed description of IT control frameworks, and the importance of using them to maintain a secure IT control environment, can be read in our *April 2008 Report*, starting on page 167.

Comprehensive IT control framework critical to internal control

An IT control framework, such as Control Objectives for Information and Related Technology (COBIT), is an efficient way to ensure that there are sufficient and effective controls over an organization's information and the systems and processes that create, store, manipulate, and retrieve important data. COBIT is an industry-recognized best practice IT control framework, developed and maintained by the Information Technology Governance Institute. COBIT has 34 high-level objectives and 211 individual control activities that give senior management and IT users generally accepted measures, indicators, processes and best practices to maximize IT benefits and minimize risks.

Regular risk assessments make it easier to use IT control framework

Conducting a risk assessment is a key activity required by control frameworks, and results in identifying and ranking risks by determining their likelihood and impact. This enables effort to be focused on developing and implementing well-designed and cost-effective IT control processes, and is ultimately the most efficient way to preserve the security and integrity of an organization's information and systems.

IT control framework integral part of internal control program

A comprehensive IT control framework should be a critical part of every organization's internal control program to mitigate risks and:

- provide secure programs and services to employees and Albertans.
- protect the confidentiality and security of information.
- ensure that systems work as expected and are available when needed.

Criteria: the standards we used for our audit

How things should be

A comprehensive IT control framework should guide the development and implementation of well-designed, efficient, and effective IT control processes to mitigate identified risks and to provide efficient and secure programs and services.

Our audit findings

Recommendations made this year

We continued our examination of the quality of IT controls in government organizations, and the extent to which they had adopted, and were following, an IT control framework. We made recommendations in our management letters to the following organizations as they did not have an adequate IT control framework in place:

- Alberta Heritage Foundation for Science and Engineering Research
- Department of Finance and Enterprise
- Alberta Investment Management Corporation
- Alberta Pensions Administration Corporation
- Alberta Securities Commission
- Ministry of International and Intergovernmental Relations
- Solicitor General and Minister of Public Security
- Alberta Gaming and Liquor Commission
- Tourism, Parks, Recreation and Culture

Implications and risks if recommendation not implemented

Without an adequate IT control framework, management cannot:

- know—or show that it knows—the risks to the organization's information systems and data.
- implement efficient and cost-effective IT controls to effectively mitigate unknown risks—or ensure the organization meets all its business goals efficiently and effectively.
- rely on the organization's data, applications, or systems to provide complete, accurate, timely and valid information.

Protecting information assets

1. Central security office

Central security office needed for IT security across government

Recommendation No. 4

To secure the Government of Alberta's information, we recommend that Executive Council ensures that a central security office is immediately established to oversee (develop, communicate, implement, monitor and enforce) all aspects of information security for organizations using the government's shared information–technology infrastructure.

Background

Government responsible to protect information

The Government of Alberta (GoA) manages large volumes of highly sensitive and confidential information that is vital to the GoA's business operations. This includes corporate financial data, ministry-specific business information, and the personal data of Albertans (for instance, health care records and drivers' license data). Not only does the government have a responsibility to safeguard this information, it is required by legislation (*Freedom of Information and Protection of Privacy Act*, Section 38) to "… protect personal information by making reasonable security arrangements against such risks as unauthorized access, collection, use, disclosure or destruction".

All this information is stored in electronic form, and resides on servers (see section 5: Glossary), either within the ministries or at shared data centres.

Three different audits

This combined report focuses on three separate, but related, systems audits that deal with different ways in which data can be accessed:

Web applications

- a web application that retrieves data from a server in response to requests received from an Internet-facing application (*Web application and network security*).

Wireless connections

- a wireless connection that allows access to a network on which a server resides (*Wireless access point security*).

Direct connections

- a direct connection with a server (*Protection of data facilities*).

It is possible to use any of these methods to access government information. Without adequate protection, attackers will focus on the path of least resistance (with the weakest controls) to gain unauthorized entry to the system.

Our audit findings

Key problem: no central authority for government-wide IT security

We reviewed three sets of access controls: one for each of the three ways to access data. Each separate audit report highlights a lack of surveillance and detection. The overall impact to the GoA is magnified when the results are combined. The most worrisome conclusion from our work is that there is no integrated approach to ensuring the security of the GoA. No one single GoA function has the authority and responsibility to:

- design security for the government as a whole.
- evaluate the effect of weak security in one part of the government and its impact on the rest.
- detect attempted intrusions or respond to potential security threats across the GoA.
- continually monitor the GoA for threats and vulnerabilities and develop remediation plans.
- enforce the solutions required to keep the GoA secure.

Inadequate IT security

No one person in the Government of Alberta has been given the ultimate authority and responsibility for information security. As each entity has the responsibility to manage its own information technology (IT) policies, practices and infrastructure, security across the government is inconsistent, varying from entity to entity. And information security is only as strong as the weakest link—if one part of the organization doesn't have adequate security controls in place, other parts of the organization can be exposed, regardless of whether or not they have well-designed security controls. Because information security in the GoA is not consistently enforced, all information assets in the GoA are exposed to unacceptable risk.

Service Alberta provides shared infrastructure but has no authority over other entities

Service Alberta provides a suite of services—shared computing infrastructure—to government organizations. Service Alberta is responsible to ensure the shared infrastructure is secure and reliable. However, Service Alberta does not have the authority to ensure that organizations using the shared infrastructure meet minimum baseline security requirements within their own computing environments.

Decentralized IT approach

The government uses a decentralized approach to information technology. This distributed or "trusted" IT environment, allows ministries and other organizations to join the GoA computing environment quickly and share resources, such as printing and email, within the government. However, each entity also has the responsibility to manage its own IT policies, practices and infrastructure.

Decentralized approach for programs and services poses IT security problems

A decentralized approach may work well for program delivery, but it poses significant challenges for security. The GoA's existing distributed computing environment creates inherent vulnerabilities and risks. Information security is only as strong as the weakest link – if one part of the organization doesn't have adequate security controls in place, it can affect other parts of the organization that have well-designed security controls.

Confidential information at risk because no central policies

This disparate approach to security controls and frameworks creates inherent weaknesses within the GoA domain (see section 5: Glossary). Instead of having one set of policies, standards and procedures to monitor and enforce, the government has left it to the individual entities to create their own approach to protect information assets. The result is that the quality of security policies and practices across the GoA varies substantially—confidential or sensitive information may be at risk of compromise, without warning.

Information not secure

Based on our audit work, we conclude that current policies, procedures, practices and control systems are insufficient to reasonably secure information systems and data. Because of these inadequate systems, it is not possible to know if any significant system breaches have occurred.

Need for a central security office

Create one authority for IT security

A more efficient and effective approach involves an industry best practice of creating one central authority responsible for the development and implementation of a government-wide strategy of asset protection.

Central office to develop, monitor and enforce IT security

A central security office for the Government of Alberta, with the authority and responsibility to develop, monitor and enforce asset protection programs would ultimately resolve the issues presented in our previous and current audits, focusing on the development and implementation of controls affecting the entire government.

Chief Security Officer must have necessary authority

The central security office and its management team (typically led by a Chief Security Officer or CSO), with the appropriate mandate from Executive Council, must have the authority and responsibility to protect the information assets of the government, including the power to enforce physical and logical IT controls (see section 5: Glossary).

In prior reports, we have recommended the GoA adopt an IT control framework, develop a project management office, create a standardized systems development lifecycle, and develop a security awareness program.

Service Alberta has worked to improve IT security

The Ministry of Service Alberta responded to these recommendations, and developed and distributed policies, standards, and procedures. Their response to our findings shows its commitment to improve GoA information security.

But lacks authority to enforce compliance

That these standards are not being uniformly followed across the government, however, highlights the fundamental restriction facing Service Alberta. The Ministry can develop policies and offer guidance to other ministries, but cannot enforce requirements on those departments, agencies, boards and commissions directly attached to the GoA domain.

Recommendations in 3 areas to Service Alberta but main problem remains

In this report we make new recommendations from our work in three additional areas—*Web application and network security, Wireless access point security,* and *Protection of data facilities.* Again, Service Alberta has accepted our recommendations, and will be developing and distributing the necessary policies, standards and procedures. The issue remains, however, that this Ministry does not have the authority to implement, monitor and enforce these initiatives on a government-wide basis.

Central security office needed to improve government IT security

As in the past, the recommendations resulting from our work in these areas are addressed to Service Alberta to resolve, by working in collaboration with all ministries, and through the Chief Information Officer (CIO) Council. Eventually we expect to raise such findings with a central security office that has the mandate to effect change and to promptly improve the security profile of the government.

We discussed our three audits with the Office of the Information and Privacy Commissioner, as they have potential privacy implications.

Organization use multi-layer security for protection

Proactive organizations embrace the value of access controls and defense-in-depth strategies. These organizations know they must protect their information systems. The organizations deploy access controls and multi-layer security strategies to secure their information assets.

Albertans expect government to protect information

Albertans expect government websites to be secure from potential attack. They expect that adequate physical controls will be in place to protect government information systems and information, and that newer technologies, like wireless networks are properly managed, and implemented in a manner that adequately safeguards confidential information.

GoA a $38-billion organization

The challenges posed by a complex $38 billion organization like the GoA demand that there needs to be a central body responsible for ensuring the overall security of the government. Other Canadian provinces have central security offices, with suitable mandates and the authority to ensure compliance. The Government of Alberta must promptly establish control over information security.

Implications and risks if recommendation not implemented.
All information assets will remain exposed to unacceptable risk.

2. Web application and network security

2.1 Summary

Use of web applications increasing rapidly

Banking online, booking a campsite, renewing library books, registering for courses, and making a purchase on eBay are all examples of how people use 'web applications' in their daily lives. Web applications make it increasingly convenient to conduct everyday transactions, and the number of transactions done over the Internet is increasing rapidly.

GoA relies on web applications to deliver programs and services

The Alberta government is no exception. The GoA relies on web applications to deliver programs and services to Albertans and to process financial and personal information. This technology enables the GoA to increase the efficiency of its program and service delivery. For example, www.eab.gov.ab.ca, the Environmental Appeals Board website, allows Albertans to file online appeals of environmental judgments. A Health and Wellness website, www.albertanetcare.ca, hosts a province-wide electronic health record (EHR) that is accessible by health care practitioners.

Web applications increase security risks

Web applications, by their very purpose, increase risk exposure significantly. Web applications need to be "visible" on the Internet. They are placed on the Internet so authorized users can access them conveniently. This also makes them attractive and easy targets for potential hackers to exploit. Security must be "designed-in" from the beginning for web applications to be secure. Vulnerabilities in these applications can be exposed and exploited to gain unauthorized access to sensitive data or systems.

New security vulnerabilities every week

Every week it seems there are new vulnerabilities identified and exploited for all types of web applications. Industry experts estimate there are currently more than 400 basic web application security vulnerabilities. These base vulnerabilities often spawn mutated versions not as easy to identify and fix. This creates thousands of different ways to break through the security of web applications.

Shared computing infrastructure administered by Service Alberta

Service Alberta administers the GoA's shared computing infrastructure. This shared network consists of the physical network, the devices that support it like routers and switches, and the software that controls it.

Network security is key

Network security is critically important to adequately protect key information. To have good network security, organizations must have appropriate network policies, procedures, and standards which they implement and enforce.

Shared infrastructure relies on trusted links

The shared infrastructure relies on trusted links and the security within each ministry. Service Alberta—although administrators of the shared infrastructure—do not always own or have control over other ministry assets using the shared infrastructure.

IT control framework supports web-application security

An IT control framework with defined security requirements and well-designed controls is the foundation of a well-controlled and -managed organization. In our April 2008 report to government, we recommended that Service Alberta, in conjunction with all ministries and through CIO Council, develop and promote:

- a comprehensive IT control framework.
- guidance to implement well-designed and cost-effective IT control processes and activities.

Comprehensive approach to security needed

Secure and well-managed organizations have comprehensive IT control frameworks that have properly defined and consistently followed security policies and standards, and well-designed and effective control processes. A comprehensive approach to security is necessary to ensure all web applications remain secure. Without adequate policies, procedures, and control processes, organizations cannot state risks are effectively mitigated, nor can they effectively mitigate them.

Inadequate standards for web-application security

In this audit, we reviewed existing web application security documentation. We concluded that current GoA web application security policies and standards are inadequate.

Inadequate communication and assistance for web-application security

We also confirmed that there is no government-wide program or process to:

- ensure suitable web application security standards are developed, communicated, and promoted throughout all government organizations.
- provide guidance and assistance to government organizations to implement secure web applications.

Service Alberta co-operated fully with us, allowing us to perform our scans unhindered. The objective of our examination was not to evaluate the intrusion detection systems used by the GoA, but rather to assess, within a reasonable time-frame, the security quality of pre-selected GoA websites.

It should be noted that while these findings were accurate at the point in time that the examination was carried out, the vulnerabilities present, prior to, or since that date, may differ. Also, because of the automated tools used to assess the websites, there is a possibility that some of the vulnerabilities discovered may be "false positives". Nonetheless, we believe that the types of vulnerabilities present are represented in our findings.

Systemic problems identified

Because there's a lack of consistently followed policies, procedures and standards in the GoA, we found systemic problems and vulnerabilities throughout the web applications we tested. Given the significant numbers of vulnerabilities identified through our testing, we immediately discussed and agreed our findings with Service Alberta management. Upon notification of the critical issues that exist, management began corrective action immediately.

69 GoA websites assessed

We identified more than 400 websites for testing, but due to time constraints were able to assess only 69 web sites. We discovered a disappointingly large number of vulnerabilities in these sites. When we classified these vulnerabilities, we identified:

- 4 % were critical
- 3 % were high
- 24 % were medium
- 69% were low

A vulnerability is classified as critical, high, medium or low, as follows:
Critical: a vulnerability that could let an attacker execute commands on the server, or retrieve and modify confidential information.
High: a vulnerability that could let an attacker view source code, system files, and sensitive error messages.
Medium: other errors or issues that could be sensitive.
Low: interesting issues, or issues that could evolve into a more severe vulnerability.

Government responsible to ensure web applications securely built

Secure, well-managed organizations understand the importance of web application security, and use this knowledge to secure their organizations. They recognize the extreme importance of security for web applications to ensure that their systems—and the information they host and process—are secure and available when needed.

Albertans expect government organizations to safeguard the confidentiality and accuracy of their personal information, to provide secure programs and services as and when needed, and to ensure that public assets are not susceptible to misuse or fraud.

Three recommendations to Service Alberta

As a result of our audit, we made three recommendations to management—that Service Alberta, in conjunction with all ministries and through the CIO Council:

1. develop and maintain detailed policies, procedures, and standards to build and operate secure web applications.
2. ensure that all GoA web applications consistently meet all security standards and requirements.
3. review, improve, and ensure compliance with the GoA's shared computing infrastructure's security policies, procedures, and standards.

2.2 Audit objectives and scope

Our initial audit objectives were to assess if the GoA:

Are GoA web applications secure

- develops, maintains, and makes available to government organizations, adequate policies, procedures, and standards necessary to build and maintain secure web applications.

Are control processes effective and well-designed

- has well-designed and effective control processes to:
    - review the security of all government organizations' web applications.
    - ensure government organizations' web applications consistently meet all security standards and requirements.

Does shared infrastructure protect information

Using findings from the initial audit we expanded our work to examine and report on whether the GoA's shared computing infrastructure is adequate to protect government's and Albertans' information.

The GoA's shared computing infrastructure is used by most ministries, agencies, boards and commissions, and is maintained by Service Alberta. This shared network consists of the physical network, the devices that support it, like routers and switches, and the software that controls it.

Audit scope: all government entities

The scope of our audit included all web applications of, or associated with, any Government of Alberta ministry, agency, board, commission or post-secondary institution. We refer to these throughout the report as organizations.

We also included the Government of Alberta shared computing infrastructure and all of the domains it owns, or administers.

3-phased testing of web-application security

We tested the security of government Web applications through a 3-phased process:

Phase 1: Identify GoA web sites
Phase 2: Conduct high-level automated scans on these addresses
Phase 3: Conduct detailed manual tests of selected web sites to confirm the vulnerabilities found in the automated scans could be exploited.

Worked with Service Alberta

We worked closely with Service Alberta to conduct the audit, and Service Alberta was our main contact and the central point of communication with the government community for Phases 1 and 2. For Phase 3—detailed manual testing of web applications—we planned to communicate directly with each organization selected for detailed testing.

When it became apparent that sensitive government information was exposed due to vulnerabilities in the design and administration of government websites and the shared computing infrastructure, we discussed our findings with Service Alberta. They agreed to immediately proceed with remedial action to address identified vulnerabilities. At this point, we stopped Phase 3 testing.

Audit timeline

Our audit took place from January 2008–May 10, 2008. This report uses the results of our work conducted during that period.

2.3 Background

2.3.1 Web applications

Fine line: effective web applications must be both accessible and secure

Web applications must tread a fine line between accessibility and security. Albertans benefit from these web applications but the applications must protect against malicious use. As web applications become more prevalent and accessible, the security built into them plays an even greater part in the overall security of Albertans' information.

International standards being developed

Web applications must be designed and built to ensure they can't be used in unauthorized or malicious ways. An international non-profit organization called the Open Web Application Security Project (OWASP) is leading the development and maintenance of web application security standards. These security standards define how to build and maintain secure web applications.

OWASP has developed a list of common errors and vulnerabilities, and guidance on how to protect web applications from them. The Government of Alberta has considered web application security through its web Application Protocol Standard 4068.

Best practices available for free

OWASP provides best practices to build and maintain secure web applications free of charge. They also provide regular reports on the top security vulnerabilities and exploits against web applications, and guidance on how best to protect against them.

Government must remain vigilant: security needs constantly changing

The Internet is constantly changing. What was secure yesterday may not be secure today. What is secure today will probably not be secure tomorrow. There is a cat–and–mouse game played by those wanting access to sensitive systems or data for illicit reasons, and those who protect the security of our information.

2.3.2 Network security

Network security needs controls built into new systems

Network security is important. To have good network security, an organization must have the appropriate network policies, procedures, and standards, and the ability to implement and enforce them. Secure organizations ensure well-designed and effective security controls are built into all new systems, applications and infrastructure before they are deployed in the production environment. Good network security practices and controls increase the probability programs and services will be available as and when needed, and that the data they host will remain secure and confidential.

Security layered like an onion

When designed properly, multi-layer network security looks like an onion. You need to keep peeling layers off to get to the critical core.

One layer of security inside another protects valuable assets. If security systems aren't properly designed, you can bypass the security layers and cut directly to the center.

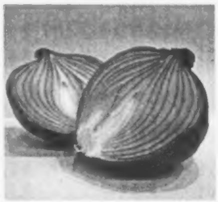

Figure 1: onion skin approach

2.4 Criteria and conclusions

We started this audit with the plan to examine two criteria:

Do adequate Web application security standards exist

1. Service Alberta—on behalf of the government and in conjunction with all ministries through the CIO council—should develop, maintain, and make available to all government organizations detailed policies, procedures, and standards to build and operate secure web applications.

Are security standards consistently met

2. Service Alberta—in conjunction with all ministries and through the CIO Council—should develop and implement well-designed and effective control processes to:
   - review the security of every government organization's web applications.

- ensure Web applications consistently meet all security standards and requirements.

By evaluating the first two criteria, we found that if a vulnerable web application is compromised, other government services or areas may also be at risk. Thus, we expanded our scope to include the following third criteria.

Does government have secure network design

3. Service Alberta—as the administrator of the government's shared computing environment—should have policies, procedures, standards, and well-designed control activities to provide adequate security ensuring the confidentiality, integrity, and availability of information systems and data.

Criteria	Conclusion			
	Met	Partly Met	Not Met	Related recommendation
1. The government should have adequate policies, procedures, and standards to build and operate secure web applications.			✓	Page 64
2. The government should ensure that web applications consistently meet all security standards and requirements			✓	Page 66
3. The government's network security policies and practices should adequately protect government and Albertans' information.			✓	Page 68

Service Alberta developing standards

We found that current GoA web application security standards are inadequate. The Ministry of Service Alberta has recognized this and is leading an initiative, through the CIO Council, to develop an IT control framework including detailed web application and other security policies, procedures, and standards.

Service Alberta is working to improve security

Service Alberta is aware of the seriousness of the security vulnerabilities and has indicated that it is working to ensure that:

- comprehensive web application policies and standards are defined and implemented.
- all government organizations' web applications are scanned and that identified security vulnerabilities are remediated immediately.

- web application security policies, standards, and the web applications themselves, will be continually monitored and any issues identified promptly resolved.
- insecure shared computing infrastructure practices are identified and remediated.

We support Service Alberta's initiatives in assessing the security of web applications to promptly solve these problems. This is a serious vulnerability that must be dealt with promptly and throughout the government to protect the confidentiality and integrity of Albertans' information and the programs and services the government provides.

2.5 Recommendations

2.5.1 Develop and maintain detailed standards and policies to build and operate secure web applications

Recommendation

We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, develop and maintain detailed policies, procedures, and standards to build and operate secure web applications.

Background

Security must remain priority for both web applications and network

The security of web applications is only a starting point. Secure, well-managed organizations work at securing their entire computing infrastructure. Hackers look for the weakest point to attack and gain access. If a Web application is secure, they look for weaknesses in the operating system it runs on. If that's secure, they try to exploit network vulnerabilities. If the network is secure, they go to the next web application and try the cycle again.

Policies, procedures, and standards necessary to meet minimum security requirements

Policies, procedures, and standards are necessary to ensure that all government ministry and agency web applications meet minimum security requirements. The government has previously identified the need for standardized policies and procedures, and has—through previous iterations of Service Alberta—developed and approved web application standards and guidelines for securing web applications.

Criteria: the standards we used for our audit

The Government of Alberta should develop, maintain, and make available to government organizations, the policies, procedures, and standards to build and operate secure web applications.

Our audit findings

Web-application security documentation out of date

We reviewed web application security policies, procedures, and standards documentation issued by Service Alberta. The documentation was issued between 2002 and 2006, and has not been updated since.

No one group responsible for policies or standards

The government has not charged a single group or committee with the responsibility to develop, maintain, and implement government-wide web application security policies or standards.

Documentation not regularly reviewed

The policies and standards we reviewed were developed and approved by Alberta Corporate Services Centre, the predecessor to Service Alberta. A process does not exist to ensure the documentation:

- is regularly reviewed and remains up to date and relevant.
- is promoted to all ministries and agencies.
- includes the appropriate guidance to implement the policies and standards.

Current security standard not well known or followed

In 2003, Service Alberta developed and promoted a web application security standard—Web Application Protocol Standard 4068. However, the document isn't well known, or consistently followed by government organizations. The security requirements in this document refer to the overall Government of Alberta IT Baseline Security Policy. The overall GoA IT security policy does not identify specific web application security standards or requirements.

No centralized role to define, implement, and ensure web-application security

Service Alberta is responsible to develop, maintain and make available the policies, procedures, and standards to build secure web applications. But no one is responsible to ensure web applications are built and operated to these secure standards. A central security office can play a key role in improving the GoA's overall security environment by having the responsibility to ensure these policies and standards are consistently met.

Implications and risks if recommendation not implemented

GoA systems and information at risk

Without adequate and consistently met policies, procedures, and standards to build and maintain web applications, the entire GoA's shared computing infrastructure—and all the data and information in it—is at risk.

There is lack of policies, standards, and enforcement

A lack of secure web-application policies, procedures, and standards leads to:

- government organizations not knowing what is required or needed to build and maintain secure web applications.
- government organizations building and implementing insecure web applications.
- web applications that were once secure becoming insecure and vulnerable over time.

2.5.2 Develop standards and policies to ensure web applications are built to required standards

Recommendation No. 5

We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, develop and implement well-designed and effective controls to ensure all Government of Alberta web applications consistently meet all security standards and requirements.

Background

Effective controls required

To ensure all information assets—systems, applications, and the data they hold—are secure, organizations must regularly and consistently monitor and review web applications to ensure they are built and remain secure. Secure organizations have well-designed and effective control processes to ensure that web applications are built to secure standards before they are allowed in the production environment or exposed to the Internet.

Proactive controls most effective

Proactive controls that ensure web applications are tested before they are deployed, and regularly tested afterwards for new vulnerabilities, are the best form of prevention. It's much easier to prevent a security breach in the first place than to secure all systems and data after a breach.

Criteria: the standards we used for our audit

Service Alberta, in conjunction with all ministries and through the CIO Council, should have well-designed and effective control processes to:

- review the security of all web applications on the government's shared computing infrastructure.
- ensure web applications consistently meet all security standards and requirements.

Our audit findings

Guidance lacking on meeting security standards

We reviewed documentation available in the GoA's shared repository of policies, procedures, standards, and other documentation and confirmed a lack of guidance. Service Alberta and other government organizations don't have well-designed controls to ensure web applications using the shared infrastructure are built to, and continue to meet, government security standards.

OWASP security standards adopted but no compliance mechanism

The government has previously identified the OWASP secure configuration standards as a best practice to build secure web applications in the GoA guidelines for building secure web applications (GOA ID # 4698 and OWASP

Web server security GOA ID # 4072). However, there is no well-designed and effective control process to ensure compliance with these standards.

No ability to properly assess organization's security

The GoA, through Service Alberta or any other group, doesn't have:
- adequate policies and procedures to ensure that web applications using the government's shared computing infrastructure are built and maintained to a secure standard.
- well-designed and effective control processes to ensure that web application security standards are consistently followed.

Knowledge and consistency limited

We also found, throughout the GoA, there is limited knowledge and consistency in the:
- way each organization builds and implements web applications.
- understanding among organizations as to what constitutes a secure web application, or how best to build and maintain secure web applications.

OWASP vulnerabilities present in government websites

OWASP has identified a list of the top 10 most common web application security vulnerabilities. Using OWASP security standards to build and maintain web applications should limit or eliminate the presence of common and easily protected-against web application vulnerabilities.

We examined 8 of the Top–10 OWASP identified vulnerabilities and all of these were present in the government websites reviewed.

These conditions are easily preventable by following standards for secure coding, building, and maintaining web applications and the systems they run on.

This finding is of particular concern given the inter-dependencies in the current government shared computing environment design. The entire government relies on individual organizations to ensure they have designed and implemented secure web applications.

All government organizations need security standards

We also identified other vulnerable web applications—belonging to other government organizations—but not using the shared infrastructure with similar critical security vulnerabilities. Although these vulnerable web applications may not directly threaten security of the government's network as they are not part of the shared infrastructure, they threaten confidentiality and security of government and Albertans' information used by these applications.

Implications and risks if recommendation not implemented

Inadequate controls lead to unauthorized access to key data and systems

Without well-designed and effective control processes to ensure that all ministry and agency web applications are built and maintained to strict security standards, this could result in unauthorized access to, and abuse of, critical, sensitive or confidential data and systems.

2.5.3 Review and improve the GoA's shared computing infrastructure policies, procedures, and standards.

Recommendation No. 6

We recommend that the Ministry of Service Alberta work with all ministries and through the Chief Information Officer (CIO) Council, to develop and implement policies, procedures, standards, and well-designed control activities for the Government of Alberta's shared computing network.

Background

Good network security practices increase probability that services will be available and information secure

Network security is important. Good network security requires an organization to have the appropriate policies, procedures, and standards to take security into account throughout its lifecycle. Secure organizations ensure well-designed and effective security controls are built into all new systems and applications—including Web applications—and infrastructure before they are deployed in the production environment. Good network security practices and controls increase the probability that programs and services will be available when needed, and that the data they host stays secure and confidential.

Shared network consists of physical network, devices, and software

Service Alberta administers the Government of Alberta's shared network computing infrastructure. This shared network consists of the physical network, the devices that support it (like routers and switches), and the software that controls it (like Active Directory). Active Directory is a technology that gives network administrators tools so that users and devices on the network can talk to each other efficiently. Active Directory stores information and settings in a central database and allows administrators to assign access to resources, deploy software, and apply critical updates and security patches throughout the network.

Service Alberta administers shared network but does not control it

The government's shared infrastructure relies on trusted links and the security within each ministry. Service Alberta—although the administrator of the shared infrastructure—does not always own or control other ministry assets using the shared infrastructure.

Did government build with security in mind

The Government of Alberta's shared computing infrastructure has evolved over many years, constantly accommodating new and modified departments, ministries and entities along the way, and changing corporate priorities. Because of the speed with which such changes have to be made, security may not have always been adequately considered. Although threat and risk assessments are conducted on organizations moving into the shared infrastructure, there is no formal risk acceptance framework or accountability practice to deny entry to the shared infrastructure or to accept risks insecure organizations may bring with them.

Security often an afterthought, second to functionality

Security requirements are often considered "non-functional" or an inconvenience when systems are designed. Security is not usually needed for an application, system, or network device to meet its functional goals. Thus, security is often implemented as an after-thought. However, well-designed and effective security is essential if government plans to rely on its systems to produce complete, accurate, and valid information, available when needed.

Criteria: the standards we used for our audit

Service Alberta needs to ensure safe network

Service Alberta—as the administrator of the government's shared computing infrastructure—should have policies, procedures, standards, and well-designed control activities to provide adequate security to ensure the confidentiality, integrity, and availability of information systems and data.

Our audit findings

Inadequate procedures, standards, processes for shared network

Service Alberta does not have adequate procedures, standards, and well-designed control processes for the GoA's shared computing infrastructure to ensure the confidentiality, integrity, and availability of information systems and data.

"Trusted" security model inadequate

The GoA uses a "federated" or "trusted" model for security. Although this allows government organizations to quickly and easily share resources and infrastructure, it also increases the risk to other more secure organizations.

Implications and risks if recommendation not implemented

Programs and services not adequately protected

Without adequate and government-wide IT security policies, procedures, and standards, the government cannot adequately protect all programs and services it offers to Albertans.

Government's and Albertans' information at risk

Further, until the government establishes a central authority to ensure that policies, procedures, and standards are well-designed and promoted, and followed, the government's data and Albertans' personal information will remain at risk of unauthorized access.

Speed and completeness of solution is essential

If Service Alberta does not review and solve the network security problems promptly and properly, throughout the entire computing environment, existing vulnerabilities will be more easily and quickly exploited—even by less-knowledgeable attackers. Network infrastructure that provides programs and services to Albertans, and processes government and Albertans' financial and personal information will not be secure or reliable.

3. Wireless-access-point security

3.1 Summary

Wireless networks becoming more popular

Wireless networks are becoming popular and more widely available. How many of us have gone to our local coffee shop and seen a customer enjoying a warm, frothy beverage, typing on their laptop and surfing the Internet?

The widespread use of wireless access points (WAPs) allows us, virtually from anywhere, to catch up on our emails, pay a bill online or finish the last page of a report.

This ease of use, though, comes at a price - unless it's well secured, wireless technology can unintentionally expose confidential data and systems.

Wireless networks offer easy access to criminals

In recent years, WAPs have offered cyber criminals easy access to corporate records. One of the largest information security breaches in the past decade involved criminals exploiting an insecure WAP in a company's network, and stealing more than 47 million customer records and affecting consumers across North America.[1]

Organizations need to balance benefits and risks

Organizations looking to install wireless networks need to understand not only their benefits but also their risks. They must determine if the business needs outweigh the potential risks.

Wireless networks are like a typical wired computer network. Except, if you don't secure it properly, it's just like sitting in that coffee shop…everyone can use your network.

Service Alberta policy on wireless access

Service Alberta created a policy on the use of wireless technology throughout the GoA. The policy outlines a series of industry best practices to reduce potential risks created by wireless access points.

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[1] www.consumeraffairs.com/news04/2007/05/tjx_wireless.html.

The policy states (in part):
Wireless access should be configured as any unsecured external network, such as the Internet. Connecting wireless access points directly inside an internal network without security measures is not acceptable.

The policy goes on to state:
Wireless access to an internal network should be limited to specific authenticated devices only. No access is to be granted to unknown devices. In practice, this means limiting which devices have access to a wireless access point using a combination of user logons/passwords, firewall rules, and the addresses of the specific devices.

Encryption keys should be regularly changed. Be advised that many wireless encryption methods are vulnerable to attack and that tools to break some of these encryption methods already exist.

We assessed if ministries comply

Using Service Alberta's guidelines, our security audit focused on how well ministries with wireless networks implemented these recommendations.

Policy in place

We found the policy document created by Service Alberta is in place, but out of date and doesn't provide guidance on the type of security or surveillance required for wireless networking. The policy document was last updated in 2003.

No surveillance

The government does not have one central location providing ongoing network surveillance. There are no controls in place to detect or prevent an employee (or any other party) from plugging in a WAP and then it being used to gain unauthorized access to the GoA domain.

Guidance not provided

Service Alberta has created the Wireless LAN Security Policy but has not offered any formal guidance to ministries wanting to develop their own policy. There are no consistent standards relating to wireless networking—some ministries explicitly follow Service Alberta, some create their own policies.

3.2 Audit objectives and scope

Does Service Alberta:

- provide guidance
- ensure protection

Our primary audit objective focused on the policies and controls in place at the selected ministries, as well as any direction offered by Service Alberta:

- Does Service Alberta provide guidance to ministries on developing proper wireless security policies?
- Does Service Alberta have the authority to ensure all ministries have the right protection in place to guard against wireless security threats?

Do ministries:
- have and enforce policies
- control risks

- Do ministries have their own wireless security policies in place and are they enforced?
- Do ministries have proper controls in place to identify and guard against risks posed by wireless networking?

The scope of our audit was to determine:

- if the policies, procedures and standards that Service Alberta provides are adequate and give ministries direction on implementing proper wireless security policies.
- the GoA's ability and authority—through Service Alberta—to monitor and enforce adequate wireless security policies, standards and procedures.
- if Service Alberta has, or should have, the authority to ensure all ministries have proper controls in place to protect government systems from wireless network threats.
- if ministries had adequate security-awareness programs to educate staff on the safe use of wireless networks.
- if ministries received any guidance from Service Alberta on creating policies, standards and procedures for wireless networks.
- if ministries are actively monitoring for and protecting against unauthorized wireless access points.

Six ministries audited

For this examination, we selected the following six ministries in the Capital region:

- Advanced Education and Technology
- Children's Services
- Finance and Enterprise
- Health and Wellness
- Justice and Attorney General
- Sustainable Resource Development

Two phases of audit work

We completed the audit in two phases. The first phase was a Proof of Concept (PoC) using one ministry as a pilot. The PoC proved our audit process was sound and led to Phase II—a larger audit involving an additional five ministries spread out amongst ten buildings in the Capital region.

Diverse networks, high data volume, sensitive information

The six ministries have diverse computer networks, large volumes of data, and sensitive information regarding Albertans. Each ministry was aware of the audit and co-operated fully with my Office, granting supervised access to their buildings and networks. The audit took place in April and May of 2008.

One other ministry conducted a similar review of its wireless security in January 2008. Their audit used a similar approach and produced similar results. These results are not included in the overall wireless security audit.

3.3 Wireless networking

Wireless networks are faster and cheaper to install

Wireless access points (WAPs) are an inexpensive and quick way to create a network for an organization. WAPs provide connections into computer networks without incurring the cost of running wires in walls and baseboards.

WAPs use radio frequencies to broadcast network traffic to and from computers equipped with wireless network cards. Most laptop computers come equipped with wireless access cards, giving mobile users the ability to connect to wireless networks at home, at work and on the road.

Cafes, hotel lobbies and airport terminals offer wireless networks to their patrons. These networks are good examples of how easy wireless networking has become. You can turn on your laptop and access a wireless network almost everywhere.

Secure wireless networks take more time and effort

Series of safeguards needed to defend network

Setting up a *secure* wireless network, though, takes more time and effort because the organization must understand the threats and vulnerabilities inherent in wireless technology. The organization must put into place a series of safeguards to defend its network from hijacked sessions (an attacker "steals" or "hijacks" a legitimate session by eavesdropping on the traffic and taking over the real user's network session), unauthorized access (gaining entry into the system without approval) or rogue access devices (devices installed on the organization's network without its knowledge or approval).

3.4 Criteria and conclusions

No guarding against unauthorized access

Our wireless access point audit determined, in the six ministries that we audited, that there was no network surveillance in place to guard against unauthorized devices, nor was there any formal guidance on the creation and deployment of wireless policies and standards from Service Alberta.

Service Alberta has created a Wireless LAN Access Security Policy document, along with a checklist outlining industry best practices and resources for wireless networks. Both documents are available to all ministries.

Criteria	Conclusion			Related Recommendations
	Met	Partly Met	Not Met	
The government should have adequate policies and procedures in place to securely deploy wireless networks.			✓	Page 75
The government should have one central authority in place to monitor networks, including wireless access points.			✓	Page 77
The government should have safeguards in place to guard against threats posed by new technology, including wireless networks.			✓	Page 76 and 77

Policy in place, but out of date

Service Alberta has the Wireless LAN Access Security Policy in place, but it is out of date and lacks guidance on what is required for wireless networking for surveillance and monitoring.

Documents lacking in several areas

Service Alberta created a checklist of industry best practices, which list resources where ministries can get more information. The documentation doesn't list definitive requirements for deploying wireless networks. The documents also don't stress the importance of conducting threat and risk assessments before deploying wireless networks. Nowhere in the policy or checklist does Service Alberta state what type of traffic should be monitored.

No surveillance in place

The government does not have one central location providing ongoing network surveillance. There are no controls in place to detect or prevent an employee (or any other party) from plugging in a wireless network device and gaining unauthorized access to the GoA domain.

Trusted security model increases risk

The Government of Alberta uses a "federated" or "trusted" model for security. This allows government organizations to quickly and easily share resources and infrastructure, but it also increases risk to other more secure organizations.

No guidance to ministries on developing wireless networks

Service Alberta has created a Wireless LAN Access Security Policy but has not offered any formal guidance to ministries wanting to develop their own policy. There are no consistent standards on wireless networking— some ministries followed Service Alberta guidance, while others created their own policies and standards.

3.5 Recommendations

3.5.1 Wireless policies and standards

Recommendation

We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, update its existing Wireless LAN Access Security Policy to provide clearer guidance to Ministries in deploying and securing wireless-network-access points.

Background

Policies define how to secure computer systems

Security policies define what an organization must do to adequately secure their computer systems. Policies provide guidance on how an organization ensures the confidentiality, integrity and availability of its data.

Wireless access security policies are important to any organization using wireless access points (WAPs) to allow entry to their computer network. These policies should define what type of access is allowed, how an organization identifies a valid user from an unauthorized user, and how the organization will defend against unauthorized access points on its network.

Criteria: the standards we used for our audit

Policies need to be specific

Service Alberta should have policy documents that:

- outline specific security requirements and address possible security threats posed by wireless technology.
- offer guidance to ministries looking at deploying wireless networks within their infrastructures.

Our audit findings

GoA documents lack detail and key parts

The two GoA documents (Wireless LAN Access Security Policy and Wireless Security Checklist) we reviewed didn't provide details on the selection, testing and deployment of wireless technology within the GoA. The documents didn't identify how to deploy a wireless network securely within the GoA. Nor did they require a threat and risk assessment before any wireless deployments.

Two ministries use GoA policy

Two ministries' policies (Advanced Education and Technology, Finance and Enterprise) specifically state the GoA policy applies to them. They rely on the information from Service Alberta and use the Service Alberta policy document (Wireless LAN Access Security Policy, Final 4.1 dated July 11, 2003) as their overarching security policy on wireless networks.

Only one ministry has its own policy

Only one ministry (Justice and Attorney General) created its own policy document, stating all wireless network deployments must comply with the ministry's security policies. Justice and Attorney General haven't approved any wireless networks and we didn't discover any unauthorized WAPs.

Three ministries rely on Service Alberta

The remaining three ministries relied on Service Alberta policy documents. They did not have their own policies or procedures in place.

Too much latitude to choose technology

Implications and risks if recommendation not implemented

Vague security policies allow departments too much latitude in selecting and deploying technology. Without stringent policy requirements, departments could set up wireless networks insecurely and place the GoA at risk of unauthorized access by external parties.

3.5.2 Device configurations

Recommendation

We recommend that the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, review the configuration of laptops, and approve policies to prevent laptops from inadvertently exposing the government environment.

Laptop computers used extensively in government

Background

Laptop computers are commonplace in government. Users are mobile, able to work on assignments in their office, or on the road. Computer makers provide wireless networking capabilities in all newer laptops, giving users the same experience on their laptop—anywhere a wireless network is available as if they were in their office.

Criteria: the standards we used for our audit

Service Alberta should develop, promote, and ensure government organizations comply with standardized and secure laptop configurations.

Ministries aware of laptop risk for system access but have not mitigated it

Our audit findings

Two ministries (Finance and Enterprise, Advanced Education and Technology) have changed their laptop security configurations to secure their laptops against the risk of being used as unauthorized wireless entry points to the GoA domain. The remaining ministries are aware of the potential problem but have not changed the default base security configuration and as a result are still exposed to this security vulnerability.

Service Alberta can't control laptop standards

The Ministry of Service Alberta doesn't have the authority to compel ministries to buy only one type of laptop. Nor does it have the authority to enforce a standard secure laptop configuration in government. Service Alberta could work with all ministries and government organizations, through the GoA procurement process, to ensure future laptop purchases meet a standardized and secure configuration.

Implications and risks if recommendation not implemented

Poorly configured and insecure laptops could be used as unauthorized WAPs to gain access.

3.5.3 Ongoing monitoring and surveillance

Recommendation No. 7

We recommend the Ministry of Service Alberta, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, update network surveillance methods to detect and investigate the presence of unauthorized wireless access points within the Government of Alberta.

Background

Surveillance and monitoring offer defense–in-depth

Deploying new technology requires planning and diligence. Organizations cannot simply implement new technologies without first understanding the risks and providing for some type of surveillance and detection.

Criteria: the standards we used for our audit

The Ministry of Service Alberta should have the ability to monitor and protect the GoA domain against unauthorized wireless access points, including:

- scanning techniques like 'war walking' (see section 5: Glossary).
- regional scanners to search for wireless access points.
- user education sessions on wireless networking.

Our audit findings

Only one ministry conducted scanning

Of all the ministries we examined, only one ministry (Health and Wellness) conducted any type of scanning for unauthorized wireless networks. These scans were reactive and conducted on an ad hoc basis.

Ministries rely on Service Alberta for standards, but it offers no guidance on surveillance

Over half of the ministries surveyed relied on guidance from Service Alberta for wireless network and device security standards. Service Alberta has provided some information on wireless security requirements and deployment strategies. But it does not have a method to survey networks across the government or to detect rogue or unauthorized wireless access points.

Implications and risks if recommendation not implemented

Government data at risk from unauthorized wireless access

Without an overall network surveillance platform in place, the GoA remains vulnerable to threats. Unauthorized wireless access points, if undetected, potentially could allow access to the GoA from external parties. The external parties could access, alter or delete confidential government data and go about these activities undetected.

4. Physical and environmental protection of data facilities

4.1 Summary

Physical and environmental security controls inspected at 77 data facilities

Data facilities hold important government information that must be adequately protected. We inspected physical and environment security controls at 77 data facilities. We included data facilities shared by multiple ministries, and those that were the responsibility of a single ministry, board, commission or post secondary institute (PSI).

Do security standards for facilities exist

Are they followed

The objective of our audit was to determine if appropriate standards existed to guide the secure management of these facilities and whether they were being followed. We also assessed if adequate controls were implemented based on government standards, or where standards did not exist, if the controls implemented met industry best practices.

Improvements needed

Our audit revealed that improvements are needed in:

- communication between the two ministries charged with providing safe and secure data facilities.
- physical and environmental security controls.
- backup power supplies and control processes.

Facilities risk unauthorized access, fires, floods

The deficiencies observed may allow unauthorized access—either malicious or inadvertent—to government information. They also expose these facilities to environmental threats such as fires or floods.

Service Alberta and Ministry of Infrastructure must collaborate

The ministries of Service Alberta and Infrastructure need to collaborate to ensure that policies and procedures are effectively designed, implemented, and communicated, so that staff is aware of their roles and responsibilities. Data facilities need improvements to their physical and environmental security controls to ensure they are able to withstand and protect against unauthorized access and environmental threats.

Through effective security controls at data facilities, the risk of loss or misappropriation of information can be significantly reduced.

Need to protect both transmitted and stored information

With the proliferation of the Internet, electronic commerce and electronic access to government services, information security is becoming increasingly important. It is important not only to protect information from threats while it is in transit over the Internet, but also while it is in storage within government data facilities.

Security standards missing or not followed

Acceptable physical and environmental security standards did not exist in all data facilities. Where standards did exist, employees were not always following them. Every facility tested had gaps in controls over the protection of information and computer hardware.

Central facility may solve problems

Consolidating servers and other network devices from different data facilities into a central facility may help solve some of these problems. By doing this the GoA could ensure that there are adequate physical and environmental security controls in place and that they are consistently met. This is easier and more efficient to do at one location rather than at many.

Four recommendations

We made the following four recommendations to management to better protect data facilities and reduce the risk of loss or misappropriation of data:

1. Increase collaboration at shared data facilities between the ministries that use them to identify potential risks and improvements.
2. Ensure that all critical equipment is connected to appropriate backup power supplies in case of a power failure.
3. Strengthen physical security to deter unauthorized individuals from entering a data facility.
4. Maintain environmental controls to protect equipment from unexpected environmental hazards.

4.2 Audit objectives and scope

Are data facilities properly protected

Our objective was to assess if data facilities across the GoA had adequate security measures in place by determining if they had:

- physical security policies and procedures for protecting government assets.
- physical security policies consistent with GoA standards.
- implemented controls to protect assets from environmental threats.
- implemented controls to protect assets from theft, damage or misappropriation.
- a process to monitor physical security controls (see section 5: Glossary).

Evaluated physical and environmental controls

We examined data facilities at Alberta Government Provincial buildings, Alberta ministries, boards, commissions and Post Secondary Institutes (PSIs). Even though PSIs are not the direct responsibility of Service Alberta, our report includes them to ensure they meet minimum security requirements. Our audit consisted of evaluating data facilities against a checklist of best practices for physical and environmental controls.

Physical security previously reviewed

We did not examine the overall physical security of the buildings. An audit on the physical security of government buildings was reported in our *2002–2003 Annual Report* (No. 28, page 187). Our audit this year was limited to the facilities that housed computer equipment.

Between October 2007 and June 2008, we inspected 77 data facility across Alberta:

- 39 were shared facilities in provincial buildings.
- 4 were non-shared facilities in provincial buildings.
- 34 were ministry, board, commission, college, and university facilities.

4.3 Protecting data facilities

Data facilities need protection

Safeguards range from locks to biometric authentication

A data facility stores the computer equipment and information systems of an organization. Much like a house, a facility needs measures and safeguards in place to protect the valuables within from being misappropriated or inadvertently damaged, and to prevent against damage from environmental hazards. Just as leaving a house and its valuables unsecured is not prudent, nor is leaving data facilities unprotected. Safeguards can be as simple as having locks on doors, or as complex and elaborate as biometric authentication (see section 5: Glossary).

Backup power supplies and environmental controls typical

A data facility that houses the computer equipment and the information systems and data of an organization will typically have backup power supplies, backup Internet connections, special security devices and environmental controls such as air conditioning and fire suppression systems to ensure the resiliency, and environmental well-being, of the facility.

Financial, legal, and reputational risks

Data facilities usually contain critical and sensitive corporate and individual-specific information, so a security breach can have a serious and often long-lasting effect on organizations. These can be in the form of financial and legal implications, as well as loss of credibility and reputation of the organization.

Ministry of Infrastructure maintains buildings

The Ministry of Infrastructure is responsible for maintaining the physical security of all government buildings. Section 7.4 of the Government of Alberta Information Technology Baseline Security Requirements states that: *Departments must ensure the physical protection of electronic equipment, systems and media from both physical and environmental threats.*

But ministries must protect data

Ministries usually employ a series of physical and environmental controls, coupled with effective operating policies and procedures to protect their data facilities and to ensure the business continuity and confidentiality of the ministry's information.

Service Alberta manages shared data facilities for 42 of 56 government buildings

The Ministry of Service Alberta manages the data facilities of 42 out of the 56 provincial buildings in an arrangement called a Shared Data Facility (SDF). The facilities range from full data facilities to small network closets (see section 5: Glossary). For non-shared facilities, Service Alberta may also have separate arrangements with ministries to manage their computer equipment but not the facility.

4.4 Criteria and conclusions

Facilities lack effective controls

Standards not followed

Access not monitored

In many instances, data facility controls were either not present or not operating effectively to protect information and computer hardware from loss or damage. Standards exist for shared data facilities but they were not always followed. In almost all cases, there were no mechanisms to monitor access to the data facility or determine whether the environmental controls were functioning appropriately.

The following table shows the general criteria that we used to inspect each facility and the results of the inspection:

Criteria	Conclusion			Related Recommendations
	Met	Partly Met	Not Met	
Policy and procedures		✓		Page 84
Backup power		✓		Page 85
Physical security		✓		Page 87
Restricted access and monitoring			✓	Page 87
Environmental protection		✓		Page 89

Policy and procedures—partly met

Procedures lack sufficient detail

A policy for access to the shared data facilities did exist. However, this criterion was only partly met because the procedures did not go into sufficient depth. For example the policy indicates that:

- the site owner should change the keys or combinations as required but the procedures do not specify an acceptable frequency.
- all entry and exit events must be logged but it doesn't indicate who is responsible for logging the visitors' information.

Backup power—partly met

Backup power allows computer equipment to shut down gracefully

The *"Policy for Physical Access of Shared Service Alberta Data Facilities"* from Service Alberta states that SDF users are responsible for their own Backup power. This criterion was partly met—38% of computer equipment in shared data facilities were not appropriately connected to a backup power supply.

Backup power supplies protect computer equipment from utility power failure and potential damage. Due to the remoteness of some of the shared data facilities, and high likelihood of power failure in these areas, backup power supplies are crucial.

Backup power gives time to save data

Backup power supply is critical for ongoing operations and to continue to provide services to Albertans. If a power failure occurs, affected entities with a backup power supply have time to properly shut down computer equipment without damaging the equipment or losing data.

Physical security—partly met

Weak controls to keep unauthorized people out and monitor access

The *"Policy for Physical Access of Shared Service Alberta Data Facilities"* from Service Alberta states that all SDFs must be behind a locked door, and facility owners are responsible for changing the lock combination or keys. Although all the shared data facilities we visited were behind locked doors, this criterion was only partly met because:

- there were inadequate controls to monitor and review access.
- facility walls and hinges were inadequately designed.
- windows were not adequately protected.
- alarm systems had passwords written on the panels.

Restricted access and monitoring—not met

Sign-in sheets ineffective

The *"Policy for Physical Access of Shared Service Alberta Data Facilities"* from Service Alberta states that all access to SDFs must be logged. Visits to a SDF must be scheduled by contacting the Service Alberta representative and tracked through a sign-in sheet. This criterion was not met.

Although there were procedures from Service Alberta to restrict access, the sign-in process used was ineffective because visitors were allowed to sign in without independent verification of their identification.

Environmental protection—partly met

Smoke detectors missing

The *"Policy for Physical Access of Shared Service Alberta Data Facilities"* from Service Alberta states that the Project Manager and Service Alberta Da Centre (see section 5: Glossary) staff will identify air conditioning and power requirements. This criterion was only partly met because 44% of the shared data

Inadequate temperature and humidity controls

facilities did not have adequate temperature or humidity controls, or appropriate monitoring. In addition, we did not find fire or smoke detectors in 41% of the shared facilities and 28% of the non-shared facilities.

Summary of criteria results

49 criteria tested in each facility

For each shared and non-shared data facility, we tested 49 criteria in the areas of policies and procedures, environmental protection, physical security, restricted access and backup power.

We divided our assessment between facilities that were shared by multiple ministries and those that were not shared. The tables show the criteria that had the highest percentage of non-compliance.

Criteria checklist for shared data facilities

Criteria assessed at shared data facilities:

Checklist criteria	percentage of non-compliance
Unsuccessful attempts into the data center are reviewed	97%
The data center doors have a timed alarm	97%
Access into the data center is reviewed semi-annually	97%
Entry into the data center is auditable (badges, access cards, etc)	95%
The data center has adequate drainage	92%
The data center is cleaned on a regular basis	62%
Windows properly secured	60%
Manual fire extinguishers are present in the data center	49%
Walls within the data center extend to the structural ceiling	49%
Temperature reading (21-23)°C Alarm threshold (15-25)° inside the data center	44%
Smoke/heat detectors installed in the data center	41%
Appropriate backup power is available for the data center	38%

Table 1: Shared facilities

Criteria checklist for non-shared data facilities

Criteria assessed at non-shared data facilities:

Checklist criteria	percentage of non-compliance
Access into the data center is reviewed quarterly	84%
All incidents (alarms, alerts, etc) are periodically reviewed	81%
The data center is monitored by cameras	71%
Fire suppression override controls exist	67%
Moisture detectors installed in the appropriate places	50%
UPS system tested and monitored regularly	50%
Entry into the data center is auditable (badges, access cards, etc)	49%
Humidity and temperature monitoring and recording devices exist	45%
The data center uses cross zoned fire suppression systems	34%
Walls within the data center extend to the structural ceiling	33%
Smoke/heat detectors installed in the data center	28%

Table 2: Non-shared facilities

Inadequate protection of facilities

The results in tables 1 and 2 indicate that government entities are not adequately protecting information resources from accidental damage, unauthorized access to sensitive information, or theft of computer hardware.

4.5 Recommendations

4.5.1 Increasing collaboration by ministries

Recommendation

We recommend that the Ministry of Service Alberta and the Ministry of Infrastructure work in conjunction with all ministries and through the Chief Information Officer (CIO) Council to improve physical and environmental security controls of data facilities by:

- **improving communication of responsibilities between ministries.**
- **establishing government-wide minimum physical and environmental standards for data facilities.**

Background

Service Alberta inspected data facilities it operates

In 2007, Service Alberta reviewed all data facilities for which it is responsible. Not all government data facilities are managed or operated by Service Alberta. However, all facilities are expected to implement appropriate physical and environmental controls.

We inspected other facilities

We assessed the physical and environmental controls at facilities not reviewed by Service Alberta. For each ministry with data facilities not managed by Service Alberta, we:

- reviewed policies and procedures for physical security.
- assessed the implementation of physical and environmental controls at the facility.

Criteria: the standards we used for our audit

Government-wide policies needed

Well-designed processes needed

- There should be government-wide policies and procedures for physical and environmental security.
- Government organizations should have well-designed control processes to ensure that staff consistently follows established policies, procedures or standards.

Our audit findings

Inconsistencies in access-control procedures

Access control procedures in every ministry were inconsistent. Server rooms not managed by Service Alberta had to follow a ministry's security policy. In many cases, the ministry responsible for the data facility did not have procedures in its security policy, and when the ministry did have detailed procedures, staff was not aware of them.

Duplicate and underused facilities

The recent reorganization of ministries sometimes resulted in excess data facilities, with duplicate and underused or redundant physical and environmental controls. For example, two data facilities each had their own air conditioning units, alarms, and locks. Now, due to a lack of office space or other reasons, one of these facilities is used as a storage room for office supplies and files. A centralized facility would reduce this duplication and increase the security and cost benefits to the organizations.

Lack of coordination to ensure only authorized devices used

The device shown in Figure 2 is in a shared data facility and is not marked with any organization-specific identification. This illustrates a lack of coordination among organizations to ensure that only authorized devices are used.

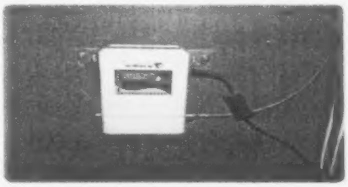


Figure 2: Unmarked device

Implications and risks if recommendation not implemented

Ineffective security controls

Inconsistencies in policies and procedures could result in lapses in physical and environmental security controls making them ineffective.

Wasted resources

Poorly planned data–facility requirements can result in:
- duplication and inefficient physical and environmental controls.
- additional and unnecessary costs.

4.5.2 Backup power supplies

Recommendation

We recommend that the Ministry of Service Alberta, work in conjunction with all ministries and through the Chief Information Officer (CIO) Council, to ensure that ministries that use data facilities ensure that connected computer equipment has a sufficient redundant power supply.

Background

Power failures due to nature or accidents

Power failures of computer and supporting environmental systems can be caused by weather, technical malfunctions or accidents by staff or utility companies.

Uninterruptible power supply (UPS) gives time to save data and prevent damage

An uninterruptible power supply (UPS) is a device—usually a set of high capacity batteries—that maintains a safe and continuous supply of electric power to connected equipment by supplying power from a separate source when power provided by an electric utility is not available. A UPS can also allow an organization additional time to safely shut down computer systems to prevent loss of data or damage to the equipment.

Did UPS exist

Was it properly connected

For each data facility, we determined if:
- a UPS or other backup power source existed.
- all computer equipment was appropriately connected to the backup power source.

Criteria: the standards we used for our audit

- A data facility should have a backup power supply in case of loss of power.
- All critical devices should be connected to the backup power supply.
- The backup power supply should be tested regularly (at least annually).

Our audit findings

Equipment not properly connected

Only 62% of computer equipment in shared data facilities was appropriately connected to a UPS. UPSs that did exist in shared data facilities were underused because only some of the computer equipment was connected to it.

UPSs in shared data facilities were incorrectly connected; in one case, a UPS was connected to a power bar that was connected to the wall outlet instead of the other way around.

Devices insecurely connected directly to outlet, with no UPS

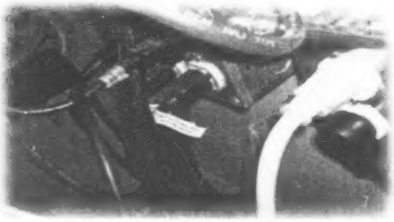


Figure 3: Utility outlets

Figure 3 shows a data facility where devices were connected directly and insecurely to the utility outlet. Some of these devices are essential to the network operation.

UPS present–but not used

In the same facility, an uninterruptible power supply was present, but no devices connected to it (see figure 4).

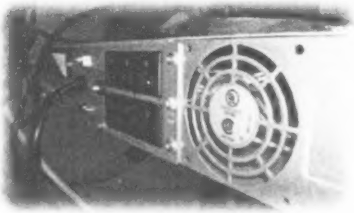


Figure 4: Unused UPS

Implications and risks if recommendation not implemented

Disrupted service and lost data: risks of no UPS

Computer network equipment without a backup power supply will fail during a power disruption and result in the loss of key data and disruption of service to employees and customers.

4.5.3 Physical security

Recommendation No. 8

We recommend that the Ministry of Service Alberta work with the Ministry of Infrastructure, in conjunction with all ministries and through the Chief Information Officer (CIO) Council, to improve:

- **physical security controls at data facilities.**
- **logging of access to data facilities by implementing effective controls to track access.**

Background

Controls to prevent or limit access to facilities and data

Physical security controls are safeguards or countermeasures that prevent, or limit only to authorized users, access to a facility, resource, or information stored in the facility. They can be as simple as a locked door or as elaborate as multiple layers of card readers, security guards and monitoring equipment.

Did controls exist

Are controls in place

We tested a sample of data facilities within Ministries, Boards, Commissions and post secondary institutions (PSIs). For each data facility, we determined if:

- adequate physical controls existed.
- appropriate access controls were in place.

Criteria: the standards we used for our audit

- The design of the data facility should prevent unauthorized users from subverting access-monitoring controls.
- A data facility should restrict access to the facility to those that need access to do their job.
- All access to the facility should be monitored and reviewed.

Our audit findings

Many facilities with inadequate design

Forty nine percent of shared data facilities and 33% of all others did not have adequately designed data facilities.

Door hinges on outside mean door can be removed

Some of the data facilities had doors with unpinned external hinges that could be removed from the outside (see Figure 5).

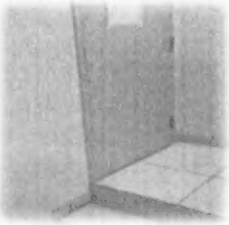


Figure 5: Exterior hinged door and raised floor

Incomplete walls allow unauthorized access

Some had walls that did not extend to the structural ceiling; others had raised floors with walls that did not extend to the structural floor to prevent someone from climbing over or under them (see Figure 6).

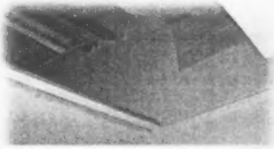


Figure 6: Access to ceiling

Unsecured windows allow unauthorized entry

Sixty percent of shared data facilities and 40% of all others did not have secured windows. At one facility, not managed by Service Alberta, a network edge device was found in the photocopy/file common room. The device allows a user to connect to the government network.

Alarm panels show their passwords

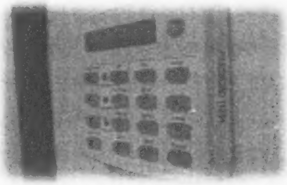


Figure 7: Alarm panel with password

We also found 2 alarm control panels at shared data facilities with stickers with the passwords written on them (see figure 7).

Key and cipher locks weaken access controls

Ninety five percent of shared data facilities and 49% of ministry, boards, colleges and commissions were secured with either a key lock or cipher lock. If keys are duplicated or cipher lock codes are shared amongst staff, it is difficult to control access and determine who has accessed the room.

Sign-in controls not monitored

Although procedures exist to restrict access, the sign–in sheets used by ministries were ineffective because visitors were not monitored when filling out the log. They could enter false information, write illegibly or enter inaccurate details. At almost all locations, we could sign ourselves in, making this control ineffective.

Implications and risks if recommendation not implemented

Unauthorized access and theft and fraud possible

Inadequate physical access controls increase the risk of unauthorized people entering the server room, which may result in unauthorized changes to critical financial information or theft of servers, data, and related assets.

Financial loss, legal repercussions and loss of credibility

Without well-designed and effective access logging controls at data facilities, organizations cannot ensure the accountability of staff or trace access back in case of an access breach. Unintended physical exposures can result in financial loss, legal repercussions or loss of credibility.

4.5.4 Environmental security

Recommendation

We recommend that Ministry of Service Alberta work with ministries to improve the environmental security controls at shared data facilities.

Background

Environmental risks from several sources

Environmental exposures are due primarily to naturally occurring events, such as lightning storms, tornados and other types of extreme weather conditions or other events such as flooding due to a pipe burst or overheating due to inadequate airflow or fire.

Environmental controls maintain temperature and humidity

Environmental controls in data facilities are necessary to maintain temperature and humidity within specified computer equipment standards. Computer equipment requires temperatures within an acceptable range to operate properly. Sufficient humidity is also needed to reduce the risk of static discharge which may damage equipment.

Fire protection and suppression necessary

Fire protection and suppression is another area covered by environmental security standards. Since computer equipment operates at high temperatures, there is a risk of fire. Fire protection and suppression should also be a part of an environmental security strategy for a data facility.

We tested a sample of data facilities for ministries, agencies, boards, commissions and PSIs. For each data facility, we determined if there were appropriate environmental conditions and controls to maintain them.

Criteria: the standards we used for our audit

- Each data facility should have documented standards for temperature, humidity and cleanliness.
- Data facilities should be monitored to ensure that standards are followed.
- Data facilities should have appropriate fire-detection and suppression systems.

Our audit findings

No documented standards

Shared data facilities did not have any documented minimum standards for temperature, humidity or cleanliness.

Facilities not operating in ideal temperature range

Forty-four percent of shared data facilities were not operating within ideal temperature ranges.

Figure 8 depicts the temperature in one shared data facility had reached 27 °C–well above the recommended range.

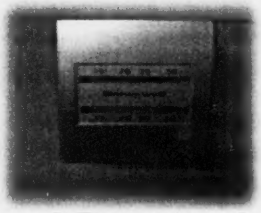


Figure 8: Temperature of server room

Risk of overheating compounded by lack of heat and smoke detectors

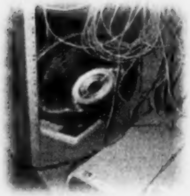


Figure 9: Fan cooling servers

In Figure 9, a fan–rather than a recommended cooling system–is cooling a server. The risk of overheating is compounded by the fact that 41% of shared data facilities lacked heat or smoke detectors.

Cleanliness problem

Sixty-two percent of shared data facilities had empty boxes, garbage and old computer parts. Most facility owners were unsure whose responsibility it was to clean the rooms.

Implications and risks if recommendation not implemented

Significant changes in the environmental conditions of the data facility can reduce the availability of computer equipment and harm the integrity of data. Ministries may experience a significant disruption of operations because of data and information being corrupted or lost.

5. Glossary

Biometric authentication	A way to uniquely identify a person using physical or behavioral traits. An example uses your fingerprint and a fingerprint scanner to identify a user and allow them to access a computer system.
Data Centre	A facility to house computer systems and associated components and equipment, including network, telecommunication and storage systems. The facility typically has redundant power supplies, generators, environmental controls and security devices.
Domain	A logical grouping of computers and devices on a computer network.
Logical IT controls	A safeguard or countermeasure put in place to reduce risks facing an IT environment. Examples of logical IT controls include authenticating users into a

computer system, antivirus software, restricting access to Internet sites and firewalls protecting computer networks.

LAN	A Local Area Network is a computer network that covers a small geographic area like an office, building or group of buildings.
Network closet	A storage room or closet with network equipment for a government building or office. The room is smaller than a Shared Data Facility and typically contains network and telecommunications equipment for a floor or small office area.
Physical security controls	A safeguard or countermeasure put in place to reduce risk. Examples of physical security controls include locks on doors, closed circuit TV cameras, fences around buildings and guards at gates.
Servers	A computer that provides services or resources to other computers.
Shared data facility	A government office or building that houses more than one ministry's computer equipment. A facility is under Service Alberta's control.
War walking	A technique used by hackers where the attacker walks around buildings with a laptop or personal digital assistant, searching for unsecured wireless access points.

Alberta's response to climate change

1. Summary

What the Alberta government committed to

Alberta's commitment

In 2002, the Alberta government committed in *Albertans & Climate Change: Taking Action*, its climate-change plan, to:

> "a long-term goal of preventing atmospheric concentrations of greenhouse gases from reaching levels that have negative impacts on people and ecosystems."

The government also committed to developing the strategies needed for Alberta to adapt successfully to changes in climate.

Alberta's climate-change strategy

In 2008, the government further committed to these goals by creating *Alberta's 2008 Climate Change Strategy*. The Strategy updates and replaces the 2002 Plan. The government established, in these documents, both emissions intensity and absolute reduction targets for provincial emissions.

What we examined

Environment is lead ministry

While other ministries contribute to initiatives that affect greenhouse gas emissions, Alberta Environment was responsible for creating and updating *Albertans & Climate Change: Taking Action* (2002 Plan) and *Alberta's 2008 Climate Change Strategy*. The Ministry is also responsible for enforcing the requirements for companies under the *Climate Change and Emissions Management Act* and the *Specified Gas Emitters Regulation*, and for reporting Alberta's progress toward meeting the targets.

Our audit examined the government's systems to develop the 2008 Strategy and to monitor and report actions indicated in the 2002 Plan excluding the Ministry's processes to enforce the *Specified Gas Emitters Regulation.* The second phase of this audit will examine the Ministry's enforcement processes and will be included in our next public report.

Conclusion

Systems need to improve

For Albertans to have confidence that climate-change goals can be met cost-effectively, management systems must improve.

Targets in Strategy

The 2008 Strategy sets provincial emissions-reduction targets and provides a vision, with some—but not all—of the actions needed to achieve the targets.

Plan, with specific targets and times, needed

Now, the government needs a master implementation plan with the specific actions to allow it to meet the targets, and with regular progress reporting. For a reasonable prospect of actually meeting the targets, the implementation plan should clearly state the milestone dates for key decisions. For example—when research needs to be completed and what choices have to be made from the best options available.

Strategy lacks detail

Urgent need for plan

The Strategy forecasts that 30% of reductions will come from improving conservation and energy efficiency and increasing the use of fuels that produce fewer emissions. The specific actions to deliver these results are not yet known. A master implementation plan would clarify when Albertans need to be clear on the viability of these solutions and the cost. We believe that for the government to meet its targets, it needs an implementation plan as a matter of urgency.

Criteria for choices needed, and supporting analysis

The Ministry needs to establish the criteria for making these choices before developing the master implementation plan. And the choices should be supported by an analysis that indicates that the actions are reasonably likely to help the government meet its goals and targets.

Process needs to improve

Overall system needed to track and evaluate

The Ministry's processes for monitoring climate-change plans and strategies also need to be improved. When we examined the response to the 2002 Plan, it was clear that the government had done a lot of work. But no overall system identified and tracked the status of the government's key actions or evaluated their results in meeting climate-change goals and targets.

Relevant, reliable data needed

While the Ministry provides regular performance reporting for climate-change targets, it needs processes to ensure that the data reported is reliable and relevant.

2. Audit objectives and scope

Are systems adequate to meet goals and targets

Our audit objective was to assess whether the government has adequate systems to achieve provincial climate-change goals and targets and the requirements of the *Climate Change and Emissions Management Act* and the *Specified Gas Emitters Regulation*.

Two parts to audit

The Ministry has not finished reviewing the reports required from companies under the *Specified Gas Emitters Regulation*. So our audit is divided into two parts:

First of two reports

- This is our audit of systems to develop and report on climate-change plans and strategies. We also examined the systems used to monitor actions indicated in the 2002 Plan (excluding the processes to monitor compliance with the *Specified Gas Emitters Regulation*).

Second report

- We will report our audit of the Specified Gas Emitters program in our next public report (in April 2009).

Audit dates

The audit covered the period from January 2001 to July 2008.

Systems

We examined the systems that the Ministry of Environment used to:
- monitor and report the 2002 Plan.
- develop *Alberta's 2008 Climate Change Strategy*.

Other programs

We also examined the following climate-change programs funded by other ministries:
- Energy retrofit in Government of Alberta buildings, funded by Alberta Infrastructure.
- ME first! Program, funded by Alberta Municipal Affairs.
- Bioenergy program, funded by Alberta Energy.

No review of targets—beyond our mandate

We do not comment on the actual targets the Alberta government chose—that is beyond our mandate. Creating emissions targets involves balancing significant environmental, social, and economic effects and is the responsibility of the Ministers involved and the Legislative Assembly.

3. Criteria and conclusions

Three criteria in Act

We assessed adequacy of climate-change systems in terms of three general criteria outlined in section 19 of the *Auditor General Act*: Do the necessary systems exist? Are the systems well designed? Do they operate as they should?

Overall, we conclude that the systems exist, but they need better design.

Three more criteria

We defined the following three additional criteria to guide our work. The Ministry agreed with these criteria.

Criterion # 1—set measurable goals and targets for the provincial climate-change approach and plan what is needed to achieve them

Actions not linked to goals

This criterion was partly met. The government established measurable goals and targets for climate change and a high-level strategy. But no evidence shows that the particular actions in the 2008 Strategy will allow Alberta to meet these goals and targets.

No criteria to select actions to meet targets

The emissions reduction actions in the 2008 Strategy are grouped under three focus areas—conservation and energy efficiency, carbon capture and storage, and greening energy production. Emissions reduction targets have been set for each focus area. (See Appendix 4). The Ministry has not yet developed the overall criteria to select actions to meet the target reductions for each focus area. For example, the Ministry has not established the maximum amount it will pay per tonne of emissions reduction. Nor has it established the effect the actions should have on GDP or done an analysis to ensure that the actions selected are the most cost-effective ones or result in the fewest negative impacts.

Master plan to implement Strategy needed—with deadlines and monitoring

The 2008 Strategy acknowledges that further decisions need to be made and implementation plans need to be developed, including a plan to develop adaptation strategies. However, except for carbon capture and storage, no document states when research needs to be completed and choices have to be made. The focus areas need to be converted into a master implementation plan with deadlines and monitoring before Albertans can have confidence that Alberta will achieve the climate-change goals and targets cost-effectively. See our recommendation in section 4.1.

Criterion # 2—complete the actions and monitor compliance and progress against emissions reduction targets

Monitoring system needed

This criterion was partly met. Some actions required to fulfill the 2002 Plan were included in the Ministry's operational plans and in the operational plans of other ministries. But no overall system tracks the status of all actions, including actions with specific targets, nor is there a process to ensure that emissions reductions were evaluated for all completed actions. See our recommendation in section 4.2.

Criterion # 3—report on climate-change results, evaluate the results and provide feedback to decision makers

Performance reporting must be accurate and precise

This criterion was partly met. For Albertans to understand progress on climate change, performance reporting should be accurate and easily understood. Each year, the Ministry reports Alberta's progress in achieving the emissions intensity target. We found one case where the data in the target was incorrect and another case where the data used to set the target in the 2008 Strategy was not consistent with the absolute emissions incurred for that year. In another case, the Ministry reported greenhouse gas reductions that, as worded, appears to inaccurately convey reductions in emissions intensity as absolute emissions reductions. See our recommendation in section 4.3.

4. Recommendations

4.1 Planning

Recommendation No. 9

We recommend that the Ministry of Environment improve Alberta's response to climate change by:

- **establishing overall criteria for selecting climate-change actions.**
- **creating and maintaining a master implementation plan for the actions necessary to meet the emissions-intensity target for 2020 and the emissions-reduction target for 2050.**
- **corroborating—through modeling or other analysis—that the actions chosen by the Ministry result in Alberta being on track for achieving its targets for 2020 and 2050.**

Background

Targets set to cut emissions

In the 2002 Plan and the 2008 Strategy, and in the *Climate Change and Emissions Management Act*, the government committed to the following targets:

Key dates: 2010 and 2020

- Emissions intensity—reduce this by 20% below 1990 levels by 2010, and by 50% by 2020.

Key date: 2050

- Absolute emissions—reduce these from 2005 levels. Starting in 2005, absolute emissions are targeted to increase up to 2020, and then to decrease. The ultimate target is a 14% reduction of 2005 levels by 2050—see Appendix 4 on page 107.

We examined the following programs, created or continued as part of government's response to the 2002 Plan.

Programs examined

- The Alberta Climate Change Vulnerability Assessment—these studies assess Alberta's biophysical, social, and economic vulnerability to climate change.
- Bioenergy program—the Biorefining Commercialization and Market Development, the Bioenergy Infrastructure Development and the Renewable Energy Producer Credit Program grant programs were part of government's $239-million plan to encourage growth of a clean, renewable fuel industry in Alberta.
- Specified Gas Emitters program—about 100 facilities emitting more than 100,000 tonnes of greenhouse gas (GHG) annually must reduce their emissions intensity. Facilities that miss their target must either buy an emissions right from another firm, buy a certified emissions offset, or buy the right to emit from the government by contributing to the province's Climate Change and Emissions Management Fund.

- ME first!—a 4-year (2003–2006), $100 million, interest-free loan program offered by Alberta Municipal Affairs, designed to help municipalities save energy, reduce greenhouse gas emissions, and replace conventional energy sources with renewable or alternative sources. The program provided $38.8 million in interest-free loans to 71 municipalities for 84 projects at a program cost of $5.0 million. To qualify for an interest-free loan, municipalities had to show how projects would save energy.
- The energy retrofit performance contract program—initiated in 1995 by Alberta Infrastructure as a part of the Alberta government's participation in Canada's Climate Change Voluntary Challenge and Registry Program. In 2001, the Alberta government set a target to reduce greenhouse gas emissions by 102 kilotonnes of carbon dioxide (CO_2) below 1990 levels in government-owned buildings by 2005.

Inputs for 2008 Strategy

The Ministry used computer-based economic modeling and consulted with the public, experts and stakeholders to choose targets and strategies in the 2008 Strategy. It used these inputs to create the Strategy.

Criteria: the standards we used for our audit

The province should:

- set measurable goals and targets for the provincial climate-change approach and plan how to achieve them.
- assess cost-effectiveness including consideration of social, economic and other environmental impacts when choosing projects to fulfill the Strategy.
- consider free-rider and rebound effects when forecasting emissions reductions resulting from incentive programs.
- put in place a master implementation plan for the 2002 Plan and 2008 Strategy that indicates, for each focus area, the major actions required and each action's:
  - deliverables and timing.
  - required resources.
  - planned effect towards meeting Alberta's emissions targets.

Our audit findings

Cost-effectiveness not always considered

The government did not consistently consider cost-effectiveness when it decided to establish climate-change programs to fulfill the 2002 Plan. It did consider cost-effectiveness for the energy retrofit program and for the Specified Gas Emitters program. In contrast, the costs of Me First! and the Bioenergy programs were known at the planning stages, but the amount of emissions reductions expected at the planning stage of the programs was not documented. We have made a separate recommendation (on page 255) to the Department of Energy to evaluate the extent of the reductions bioenergy programs can achieve.

Ministry started implementation plan

To fulfill the 2008 Strategy, the Ministry started an implementation plan for the energy efficiency and conservation focus area. The costs, timing, and expected reductions were indicated for most of the proposed actions. The Ministry told us it got expert advice on projects, which reflected knowledge of existing programs and experience in Alberta and nationally. When selecting the projects the Ministry also ensured the projects would not result in an increase in energy prices and were socially acceptable.

Overall criteria for selecting projects not yet set

The Ministry did not develop the overall criteria for selecting projects used to fulfill the 2002 Plan and has not yet developed the overall criteria for selecting projects to fulfill the 2008 Strategy. For example, the Ministry has not set the maximum amount it will pay per tonne of emissions reduction. Nor has it decided on the effect that actions should have on GDP or employment, or the sectors it wants to affect.

Ministry does not know best route to achieve reductions

The Ministry has also not decided the process to evaluate the free-rider or rebound effects associated with incentive programs. Most importantly, it has done no work to establish that the actions selected are the most cost-effective alternatives or result in the fewest negative impacts and that, accordingly, Albertans are getting the best deal possible on their emissions reductions.

That actions will achieve target not corroborated

Major actions not modeled

Modeled action not included

The government has set measurable goals and targets but had not corroborated that the actions chosen for the 2002 Plan would result in Alberta achieving the 2010 and 2020 targets. The government also has no corroboration that the particular actions chosen in the Strategy are likely to achieve the 2050 target. While the Ministry used computer based modeling in developing the 2008 Strategy, major actions in the 2008 Strategy were not explicitly modeled. Specifically, scenarios that included technology subsidies and other incentives, capacity building, the removal of barriers to technology deployment, or raising awareness were not modeled. And the actions that the model indicated could result in the reductions were not in the 2008 Strategy.

The actions included in the model but not in the 2008 Strategy consist of:

- an escalating economy-wide carbon charge increasing from $15/tonne (now), to $30/tonne in 2020, $60/tonne in 2030, and $100/tonne in 2050.
- a strict regulation that all large, new industrial facilities are required to incorporate carbon capture and storage by 2015 wherever possible.

Target based on other actions

The 14% reduction target in the Strategy is based on actions that are more stringent than the actions the Strategy chose.

Strategy focus on short-term

The Ministry told us that the Strategy identifies specific actions—programs and processes—needed in the shorter-term to maintain existing momentum or to initiate action in key areas that the province needs to pursue and build on to achieve the climate-change objectives.

Deadline for other 30% reductions needed

The Strategy acknowledges that implementation plans need to be developed for both the emissions reduction and adaptation actions. It sets a deadline of fall 2008 for the Carbon Capture and Storage Development Council to prepare an implementation plan. If successful, that plan could result in about 70% of the reductions required. But, there is no deadline for when the other emissions-reduction actions will be identified. They are the ones that will ultimately result in Alberta achieving the remaining 30% of reductions required. Nor is there a deadline for implementing the actions needed for the province to adapt successfully to climate changes.

Implications and risks if recommendation not implemented

Missed targets, wasted money

Alberta could spend a lot of money but not achieve emissions targets. Or it could achieve targets, but not cost-effectively.

4.2 Monitoring processes

Recommendation No. 10

We recommend that for each major action in the 2008 Climate Change Strategy, the Ministry of Environment evaluate the action's effect in achieving Alberta's climate change goals.

Background

Several programs in this report

The Specified Gas Emitters program, the energy retrofit, ME first!, the Bioenergy program and the adaptation research studies were some of the government's actions done to fulfill the 2002 Plan. "Facts about climate change" is an accountability report published by the Ministry that explains the climate-change issue and actions the government took in response to the 2002 Plan.

Criteria: the standards we used for our audits

The government should complete the actions in its 2002 Plan and 2008 Strategy and monitor compliance and progress against emissions-reduction targets.

Our audit findings

No overall monitoring system

In its 2002 Plan, the government committed to about 50 actions. Some actions were included in the Ministry's operational plans and in operational plans of other ministries. But there was no overall system to track the status of all actions (including actions with specific targets), the cost to government, or the planned contribution in meeting Alberta's target.

For the five actions we specifically examined, we found that:

- the vulnerability-assessment study was completed.
- the specified gas emitters program was implemented.
- the energy retrofit project was completed and the Department of Infrastructure had compiled information to show, in total for this and other energy efficiency actions, both the cost and energy savings and that they had met their 2005 emissions-reduction target.
- the bioenergy program has been established and grants are being given out under it.
- the ME first! Program was completed, but information about the actual overall emissions reductions had not been obtained by the Department of Municipal Affairs. We have made a separate recommendation to the Department on this—see page 335.

Information on ME first! still needed

Ministry developing monitoring system for Strategy

The Ministry is developing a monitoring system for the 2008 Strategy. It has proposed a governance structure for implementing the 2008 Strategy that includes a cross-ministry Deputy Ministers' committee, an Assistant Deputy Ministers' committee, and working-team committees. The terms of reference for these committees had not been established when we finished this audit.

Implications and risks if recommendation not implemented

Missed actions and targets possible

Without an overall monitoring system that evaluates whether key actions have been implemented, and their effect, actions may not be implemented and government targets may not be met.

4.3 Public reporting

Recommendation No. 11

We recommend that the Ministry of Environment improve the reliability, comparability and relevance of its public reporting on Alberta's success and costs incurred in meeting climate-change targets.

Background

Ministry reports emissions intensity yearly

Each year, the Ministry reports the emissions intensity achieved and the target in the State of the Environment Report. The emissions intensity measure calculates total emissions divided by the gross domestic product (GDP).

Measuring Up reports yearly

The government reports its performance against goals annually in *Measuring Up*. Goal 3 is: "The high quality of Alberta's environment will be sustained."

Statistics Canada data in National Inventory Report

The federal government publishes the National Inventory Report annually. This publication includes data on emissions and emissions intensity for each province. The National Inventory Report uses GDP figures from the National Economic Accounts data produced by Statistics Canada.

Reduced emissions reported

In June 2008, the Ministry issued a news release saying that the Specified Gas Emitter program resulted in companies reducing emissions by 2.6 million tonnes by operational changes and practices, including better use and re-use of energy.

Criteria: the standards we used for our audits

The Ministry should report on climate-change results, evaluate the results, and provide feedback to decision makers. The Ministry should:

Public report

- publicly and promptly report progress against overall targets and goals.

Measure and report spending

- implement a system to measure and report—accurately and completely—on climate-change spending.

Our audit findings

Incorrect target reported

The emissions-intensity target for 2010 in the State of the Environment Report is incorrectly reported as a 30% reduction. The target is actually a 22% reduction from the 1990 emissions intensity.

Provincial and national reporting differ

The Ministry's emissions-intensity figures reported in the State of the Environment Report are not the same as those reported in the National Inventory Report. The comparability, over time and between jurisdictions, of Alberta's emissions intensity would improve if the Ministry consistently used the GDP figures used in the National Inventory Report.

Both emissions and GDP need to be reported

The Ministry also reports the 1991–2005 emissions intensity only as part of an index relative to the 1990 emissions intensity. Transparency in the calculation of the measure would improve if both the emissions and the GDP were reported.

Report on target missing

The 2008 Strategy does not refer to the 50% reduction in emissions-intensity target. This target was established in both the 2002 plan and the *Climate Change and Emissions Management Act.* Accordingly, unless the *Act* is amended, the Ministry will need to report on this measure until 2020.

2005 emissions level in target needs to be corrected

Appendix 4 shows the emissions target for 2050. The 2008 Strategy established a long-term target of reducing emissions to 14% less in 2050 than the emissions reported in 2005. The Strategy indicated that 2005 emissions were 205 megatonnes. But the National Inventory reports the figure as

231 megatonnes. The difference occurs because the Ministry used the forecast data provided by its model and the model did not include all provincial emissions. The Ministry needs to decide how to adjust for this difference when reporting actual performance against the 14% reduction target.

Compare results to proper targets

The Ministry has not yet decided how to report Alberta's performance against the 2008 Strategy. To be relevant, the Ministry should report against absolute emissions or emissions-intensity targets, not against the 200-megatonne emissions-reduction target (See Appendix 4). Much of the focus on targets in the Strategy is on explaining the 200-megatonne reduction between forecasted results if the government took no action (business as usual) and the 14% reduction target level for 2050. The business-as-usual case is only a forecast, based on many assumptions such as the price of oil. The forecast becomes out of date each time the price of oil varies from the assumption. Therefore, performance reporting against this target becomes a hypothetical exercise, especially for the later periods. Performance reporting should compare actual results to the emissions-intensity target and the absolute emissions target.

Reported "actual reductions" for SGER program may be misleading

The Ministry reported in a news release that, as a result of the first period of implementation of the Specified Gas Emitter program, 2.6 million tonnes of actual reductions were achieved. The phrase "actual reductions" implies absolute reductions. However, the reductions for the Specified Gas Emitter program were calculated on an intensity basis and from the use of offsets. The intensity basis adjusts the baseline level of emissions for increases or decreases in production that occurred during the compliance period. The guidelines for offsets for the Specified Gas Emitter program allow offsets to be created as early as 2002. Accordingly, some of the "actual reductions" from use of offsets may have occurred prior to the implementation of the Specified Gas Emitter program.

There was no analysis done to determine, considering the use of offsets, whether absolute emissions for large final emitters actually decreased in the compliance period from the baseline year levels. Since an intensity reduction may be associated with absolute increases in greenhouse gases, the Ministry should have analyzed absolute emissions—to show the accuracy of its assertion—or categorized the reductions as "efficiency improvements" rather than "actual reductions".

$4.7 billion of planned spending—overall spending should be reported

To date, we have identified planned provincial spending for climate-change costing about $4.7 billion. These actions are administered by 8 Ministries. The *Facts about climate change* document reported some of the costs of programs that had been announced up to 2007. There is no overall reporting to allow Albertans to know how much is being spent to meet climate-change goals.

No report on reaching target

While *Measuring Up 2008* reported, as one of the outcomes for Goal 3, that the 2008 Strategy had been released, there was no reporting on the extent to which Alberta has achieved its climate-change targets.

Implications and risks

Assessing progress not possible

Without accurate and transparent public reporting, Alberta's progress against its climate-change goals and its overall investment in climate-change programs cannot be assessed.

5. Glossary

Absolute greenhouse gas emissions	The total greenhouse gas emissions produced, usually measured annually. Absolute emissions can be quantified for entities ranging from an individual facility or company, to a province or country or group of countries.
Adaptation to Climate Change	Adjustments in ecological, social, or economic systems in response to climatic stimuli and their effects or impacts.
Baseline year for emission targets	A selected point in time against which future years' emissions will be compared. For example, in the 2008 Strategy, the 2050 target level of emissions is set relative to the level of emissions produced by the province in 2005. 2005 is the baseline year for that target.
Carbon dioxide equivalent (CO2e)	Carbon dioxide equivalent is used to standardize measurement of greenhouse gas emissions. Each greenhouse gas has its own global warming potential. For example, methane is 21 times more powerful than carbon dioxide. One tonne of methane is equivalent to 21 tonnes of carbon dioxide.
Cost effectiveness	An indicator of preferred action in terms of emissions reduced for money spent.
Emissions intensity	The ratio of greenhouse gas emissions divided by Gross Domestic Product or some other measure of output such as production.
Free-rider effect	When the government offers an incentive for the purchase of a product or service, people who would have purchased the product regardless of the incentive (free riders) will still receive the incentive. For example, a person for whom a hybrid car would be their first choice at full price, the incentive does

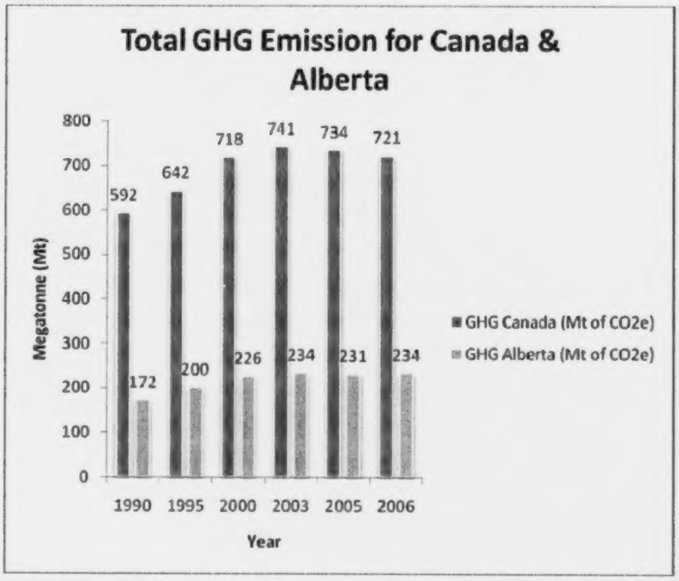
not influence their decision, yet they still receive it. The free-rider effect should be accounted for in evaluating options. Otherwise, program effects will be over-estimated.

Greenhouse gases	The main greenhouse gases (GHG) are: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF6).
Gross domestic product	The monetary value of all goods and services produced within a region's (often a province or country) borders and within a particular period of time, such as a year.
Megatonne	1 million metric tonnes.
Rebound effect	Energy savings from efficiency improvements are sometimes less than predicted because higher efficiency can lead to increased use. If evaluations of incentive programs don't consider the rebound effect, they will often under-estimate eventual energy use and over-estimate emissions reductions.

Other useful sources for understanding terminology are:

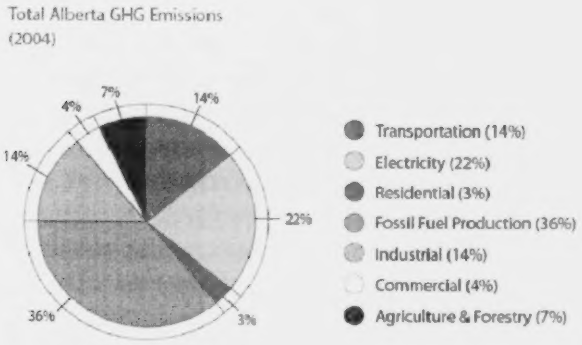
- *2006 Climate Change Report* of the Commissioner of the Environment and Sustainable Development.
- *Response of the National Round Table on the Environment and Economy to its Obligations Under the Kyoto Protocol Implementation Act.*

Appendix 1



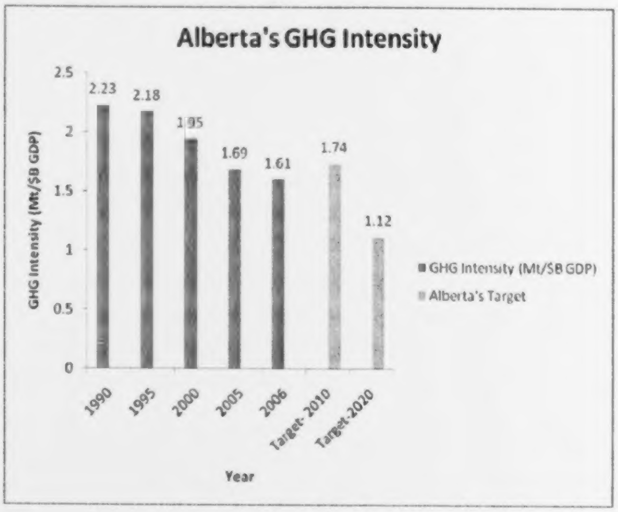
Source: 1990-2006 National Inventory Report

Appendix 2



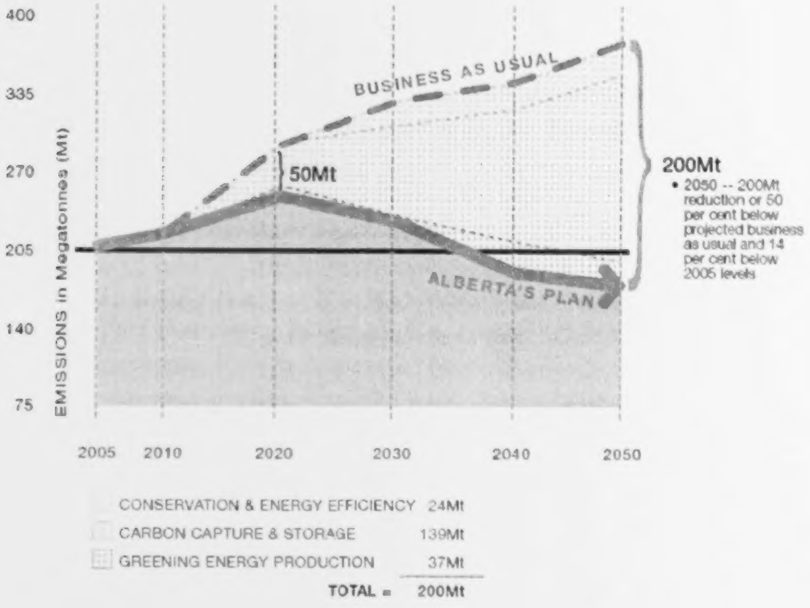
Source: Albertans and Climate Change facts about climate change

Appendix 3



Source: Actuals-1990-2006 National Inventory Report

Appendix 4 Alberta's Absolute Emission Reduction Target



Source: Alberta's 2008 Climate Change Strategy

ATB Financial—treasury management

1. Summary

What is treasury management

Treasury management is to plan, organize and control, within acceptable levels of risk, the funds of an organization optimally and profitably. Primary functions include investment and financial risk management. In the accompanying Background (section 6 on page 144), we describe treasury management in more detail.

What we examined

Does ATB have effective systems to manage treasury risks?

We assessed whether ATB Financial (Alberta Treasury Branches or ATB) has effective systems to manage treasury risks[1]. ATB operates as a full service financial institution serving Albertans. A financial institution's systems to identify, monitor and manage risk are critical to its success. ATB's treasury department plays an important role in the successful management of ATB's treasury risks, including, for example, minimizing investment losses.

Learn from poor outcomes to improve systems

Good systems involve examinations of whether their design and operation continue to be effective. We therefore assessed whether ATB management had taken steps necessary to understand why it incurred a provision[2] for loss of more than $253 million on its investments in asset backed commercial paper (ABCP)[3].

Why it is important to Albertans

ATB provides financial services to Albertans

All Albertans have a stake in ATB's success as the Government of Alberta owns ATB and the ATB board of directors is accountable to the Minister of Finance and Enterprise. ATB provides financial services to over 660,000 customers in 244 Alberta communities and has over $24 billion in assets.

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[1] Treasury risks include: liquidity risk, interest rate risk, financial risks related to its investments, foreign exchange risk, and credit risk related to securities and derivatives.

[2] A provision is an accounting term which means an estimated expense that is charged to net income for a decrease in value of an asset. The actual cash loss of capital and interest to ATB resulting from its investment in asset backed commercial paper will not be known for potentially nine years which is the expected maturity of the assets that ATB will receive once the restructuring process is completed.

[3] We have defined ABCP in section 5.1 on page 118.

Government deposit guarantee is a potential risk to all Albertans

ATB's returns belong to all Albertans. But there is a potential cost. The Government of Alberta provides a deposit guarantee to all ATB depositors. Because of the deposit guarantee, Albertans have a significant stake in ATB's financial success and ensuring that ATB is well managed. Management of treasury risks is, therefore, of real importance to Albertans.

What needs to be done

Systems need substantial upgrade

Management of ATB needs to substantially upgrade its treasury management systems. Specifically, we concluded:

- Processes for investing and for identifying, measuring and monitoring liquidity and interest rate risk need to change.
    a) ATB needs to finalize business rules and operating procedures related to its investment processes. ATB's process for establishing Global Financial Markets' (GFM) performance targets needs to be transparent and ATB should keep the evidence that supports decisions made. The variable pay program guidelines need to be completed or staff may be rewarded when corporate objectives are not achieved. (See sections 5.1.1, 5.1.2 and 5.1.3).
    b) ATB's liquidity risk management systems do not fully comply with the Alberta Finance and Enterprise Liquidity Guideline requirements. ATB can improve its liquidity reporting, liquidity contingency plan and liquidity risk identification processes. (See sections 5.2.1, 5.2.2 and 5.2.3).
    c) ATB's processes for measuring interest rate risk need improvement. Specifically, ATB needs to strengthen its controls over measuring interest rate risk; improve its process for creating, applying and validating assumptions used in its models; define significant interest rate risk exposures and model those exposures; and provide further improved reporting to senior management and the Board. (See sections 5.3.1, 5.3.2, 5.3.3 and 5.3.4).
    d) Internal audit needs to regularly examine all types of ATB's derivative activities to promptly identify and rectify internal control weaknesses and ensure ATB fully complies with the Alberta Finance and Enterprise Derivatives Best Practices Guideline requirements. (See section 5.5.1).
- ATB's treasury monitoring systems need more resources to make those systems more effective. (See section 5.4.1).
- ATB spends significant time manually compiling treasury data rather than analyzing and interpreting it. ATB needs to upgrade its treasury information technology tools. (See section 5.4.2).
- ATB treasury policies need to be updated to incorporate industry good practices. (See section 5.4.3).

- ATB's Asset Liability Committee (ALCO) can be improved through greater executive involvement and more strategic focus on treasury management. (See section 5.4.4).

This audit was not solely focused on ABCP

As part of this audit, we examined certain ATB decisions made in the past related to investing in ABCP. We reasoned that examining that decision making would give us useful insight as we took a broader look at other treasury systems. We have used the headings below (the past, the present and the future) to help readers understand how the lessons of the past can and must be used.

Under the past, we describe lessons to be learned by ATB and others in the public sector from ABCP. Under the present, we describe current initiatives ATB is undertaking to change its treasury systems. Under the future, we clearly state that improvements to treasury systems will only be made through successful implementation of change.

The past

ATB held $1.1 billion in ABCP

ATB held $1.1 billion[4] in third-party ABCP affected by the market disruption which occurred in August 2007. Four questions Albertans should ask are:

1. Why did ATB have that much ABCP?
2. What lessons should ATB learn from its investment in the commercial paper asset class, which includes ABCP.
3. What are the implications of ATB's investment in ABCP?
4. What are the lessons to be learned by ATB's Board of Directors?

Why did ATB have that much ABCP?

Policy allowed up to 60% of portfolio to be invested in ABCP

- ATB's investment policy allowed ATB to invest up to 60% or approximately $1.8 billion of its $3.0 billion investment portfolio in the commercial paper asset class, which includes ABCP.
- ABCP investments were considered investment grade by investors because of the R1-high or triple-A ratings issued by a credit rating agency.
- ATB received a higher return[5] from investing in third-party ABCP compared to other acceptable investments under the investment policy.

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[4] Included in the $1.1 billion in third-party ABCP held by ATB in August 2007 was $255 million in third-party ABCP acquired from ATB's subsidiaries in the weeks following the August 13, 2007 market disruption.

[5] The following puts the term "higher return" in context. At March 2007, ATB earned approximately 8 basis points (0.08%) above bankers' acceptances (BAs) by investing in third-party ABCP and 18 basis points above BAs by investing in categories of third-party ABCP described as extendible and floating rate notes. The additional net income earned by ATB investing $1.4 billion (balance at April 1, 2007) in third-party ABCP rather than BAs would be approximately $1.5 million. BAs are investments guaranteed by a bank and backed by the credit of the bank and the issuer.

- ATB chose to invest in third-party ABCP to achieve increasing GFM performance targets. The GFM variable pay program was also partially based on achieving these targets.

Lessons to be learned

What lessons should ATB learn from its investment losses in ABCP?

- Understand the risks and characteristics of products before investing in them. ATB did not fully understand the nature of the underlying assets.
- Clearly outline its investment objectives and tolerance for risk in its investment policy.
- Ensure there is diversification in investment holdings.
- Do not rely on a credit rating from just one credit rating agency.
- Establish processes to monitor investment risk and develop early warning signals.
- Consider investment policies of subsidiary companies at the parent company level.

What are the implications of ATB's investment in ABCP?

Provision of $253 million for losses

- ATB recorded a provision for losses in value on its ABCP of $253 million which reduced net income to $30 million for the year-ended March 31, 2008.
- ATB's assets readily convertible to cash (liquid assets) were reduced. Alberta Finance and Enterprise increased ATB's borrowing limit and ATB increased its borrowings from other financial institutions to improve liquidity.
- The ATB Regulation was changed to allow ATB to hold the restructured notes[6]. The ATB Act and Regulation contains a concentration limit that restricts ATB's investment or lending to an individual party to 25% of its equity. An exception has been made for the restructured notes.
- ATB cannot reinvest these assets in its regular business activities for seven to nine years.
- ATB senior management significantly focused on ABCP over the past year taking their time away from ATB's core banking operations.

What are the lessons to be learned by ATB's Board of Directors?

Boards should demand quality information

- If ATB's Board is not getting the right information from management, they need to demand it.
- ATB's Board should ensure the internal audit department is providing them the assurance they require. ATB's internal audit department should provide that assurance.

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[6] The restructuring of the third-party ABCP under the Montreal Accord will result in note holders receiving new floating rate notes with longer terms to maturity. At the time of our audit, the restructuring was not complete.

The present

ATB is making changes to its treasury systems

ATB has identified the need for improvement to its treasury systems and has taken the following actions:

- Hired external financial service industry expertise to assist with reviews of its investment and derivative policies.
- Identified process changes in its investment selection and monitoring systems that are currently being developed and implemented.
- Completed an external review of its treasury processes and started to develop a plan to implement recommendations from this review.
- Created a Chief Risk Officer position to facilitate and coordinate risk identification, monitoring and management throughout the organization.

The future

Implementing recommendations will strengthen systems

ATB will substantially improve its treasury systems and reduce the risk of another significant financial loss occurring by the successful and timely implementation of recommendations from us, external reviewers, and those identified internally by ATB. The external reviewers' recommendations are consistent with our recommendations.

2. Objectives and scope

Our audit objective

Our objective was to determine if ATB's systems within treasury to manage financial risks within the investment portfolio, interest rate risk, foreign exchange risk, liquidity risk, and credit risk related to ATB's investments/derivatives are adequately designed and operating effectively.

Scope statement and timing

For this audit, our focus was on the systems that existed prior to August 2007[7] and on changes ATB made to its policies and processes since August 2007 up to July 2008.

Role of Department of Finance and Enterprise

We recognize that the Alberta Department of Finance and Enterprise plays an important role in the oversight of ATB. This audit did not examine those oversight processes and systems. We plan to conduct an audit, in the future, of Alberta Finance and Enterprise's oversight systems for ATB.

Our audit did not include a review of controls related to ATB's settlement processes or client derivative program.

Extent of audit work

Our procedures included reviewing ATB documentation, discussions with staff, and walkthroughs of treasury processes. We were assisted on this audit by external advisors with knowledge of treasury and financial service industry good practices. We assessed the design and implementation of key controls as well as tested the operating effectiveness of certain key controls within treasury.

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[7] In August 2007, the Canadian third-party asset backed commercial paper market in which ATB participated came to a standstill.

3. Criteria and conclusions

Systems must be improved

ATB treasury systems exist but must be substantially improved, as our recommendations explain.

We used nine audit criteria to assess ATB's systems

We used the following nine audit criteria to draw our conclusions on ATB's treasury systems:

- Management should have:
  - treasury objectives.
  - appropriate treasury policies.
  - adequate treasury internal control systems.
  - independent reviews and assessments of those systems.
  - treasury targets and indicators.
  - reported on the achievement of treasury objectives.
- The Board of Directors should have:
  - proper experience and competencies to provide oversight of treasury activities.
  - outlined the treasury reporting it requires from management.
  - approved the treasury policies and new objectives and strategies.

Recommendations only deal with unmet criteria

Our recommendations deal only with unmet criteria. The key to improving ATB's treasury systems will be the successful and timely implementation of our recommendations and the recommendations from the external reviewers.

How this report is organized

We have reviewed the audit criteria in five areas at ATB: investments, liquidity, interest rate risk, corporate derivatives and foreign exchange. Our recommendations and observations in this report are organized under these five areas (if recommendations resulted from our work). We also have four other recommendations— included under the Global recommendations that cross different treasury functions in Section 5. Our concerns recurred in each of the five areas examined related to treasury policies, treasury information systems, the role of the middle office, and the role of the Asset Liability Committee (ALCO).

4. Prioritization of recommendations

Prioritization of recommendations

All of these recommendations were made to ATB management. We have categorized them based on our opinion of the timing for implementation.

Implement as soon as possible	Recommendations for ATB to: • develop and document the business rules and operating procedures required to implement the improved investment policy being developed. • improve its process for establishing Global Financial Market's performance targets by discussing the targets with senior Asset Liability Committee (ALCO)[8] and maintaining evidence that supports decisions made. • implement the updated investment and derivative policies for changes arising from its recent review of those policies. We also recommend that ATB undertake a review of the financial risk management policy. • complete its business rules on how variable pay is calculated for Global Financial Markets' staff by clarifying how to deal with revenue not collected and investment losses. • review the role of the Asset Liability Committee (ALCO) and consider restructuring it into two tiers.

Implement by March 31, 2009	Recommendations for ATB to: • agree internally on a consistent measure of liquidity and report that measurement to the Board and to the Department of Finance and Enterprise to provide regular and fair reporting. • further expand its use of liquidity simulations as a forward looking liquidity risk measurement tool. ALCO and the Board oversight committee should consider whether the results of liquidity simulations indicate a need to modify its business plan. • provide better–more qualitative and quantitative–reporting to senior management and the Board on its interest rate risk management. • have internal audit regularly examine all types of ATB's derivative activities to promptly identify and rectify internal control weaknesses and fully comply with the Alberta Finance and Enterprise Derivatives Best Practices Guideline.

Implement by September 30, 2009	Recommendations for ATB to: • evaluate its current treasury information systems against its business requirements and develop and implement a treasury information technology plan to upgrade its tools. • develop a comprehensive liquidity contingency plan to be better prepared for a liquidity crisis and to fully comply with Alberta Finance and Enterprise's Liquidity Guideline. The plan should be updated and approved regularly. • define its significant interest rate risk exposures and model those significant exposures to assess the effects on future net income. • improve processes for creating, applying and validating assumptions used in its interest rate risk models. • put in place controls necessary to ensure consistent measurement of interest rate risk. • expand the role of its middle office to include responsibilities for monitoring interest rate risk. We also recommend that management ensure the middle office has the necessary resources to monitor foreign exchange activities and fulfill its other responsibilities.

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[8] See section 5.4.4 related to the establishment of senior ALCO

5. Recommendations

5.1 Investments

Background

ATB's investment portfolio

Investment portfolio is $3 billion

ATB's investment portfolio was approximately $3 billion at March 31, 2008 ($2.7 billion at March 31, 2007). ATB's investments are used for short-term cash management purposes. Customer money market (large dollar) deposits received by ATB from its customers are the source of the funds invested by ATB.

Acceptable investments under ATB's investment policy are bonds, bankers' acceptances, T-bills, bearer deposit notes, term deposits, commercial paper, floating rate notes, extendible notes, short term notes, and repurchase agreements. ATB does not invest in equity securities.

Risk philosophy

The October 2006 investment policy described ATB's risk philosophy as realizing the highest yield available while observing the conservative credit risk limits and guidelines approved by the Board. ATB measures investment returns in dollar terms and also by the interest rate spread it earns. The interest rate spread is the difference between what ATB pays on money market (larger dollar) deposits compared to the returns generated re-investing those funds in the market.

Up to 60% of portfolio could be invested in ABCP

By March 31, 2007, ATB held $1.2 billion (47%) of its investment portfolio in third-party ABCP (See Figure 1). The investment policy in place at the time allowed ATB to invest up to a limit of 60% (See Figure 2 for limits) or approximately $1.8 billion of the investment portfolio in the commercial paper asset class, which includes ABCP. ATB typically held $1.6 to $1.8 billion in ABCP throughout 2007. This was split between bank- and third-party (non-bank) sponsored ABCP.

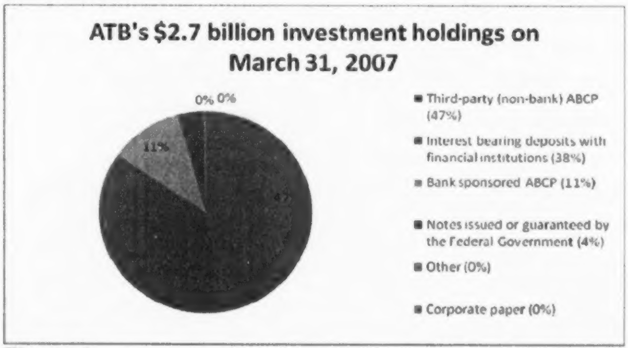

Figure 1

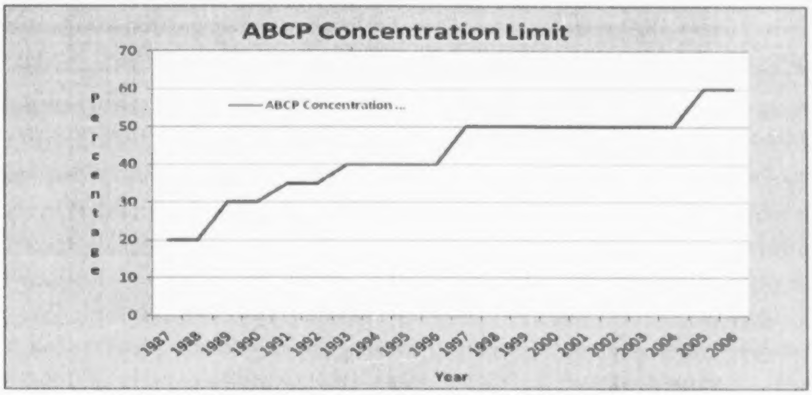

Figure 2

August 2007 ABCP market disruption

Third-party ABCP market disruption occurred in August 2007

The Canadian market for third-party ABCP came to a standstill in August 2007. Along with many other investors in ABCP, ATB was unable to recover its investment at the original maturity dates. By the end of August 2007, ATB held over $1.1 billion dollars in third-party (or non-bank) ABCP affected by the Montreal Accord. Of the $1.1 billion, ATB held $860 million of third-party ABCP affected by the Montreal Accord and acquired an additional $255 million from its subsidiary companies. For the year ended March 31, 2008, ATB incurred a provision for loss of $253 million on these investments. The ultimate cash loss of capital and interest to ATB will not be known for potentially nine years.

Plan to restructure market was developed

Large institutional investors, together with banks, asset providers and third-party sponsors, agreed to work together to restructure the frozen ABCP, which resulted in the creation of the Montreal Accord. A standstill period ensued in which participating investors would not demand repayment of their ABCP investments as they matured and the commercial paper issuers would not make liquidity calls to their liquidity providers. Issuers would also not demand additional collateral. These participants agreed in principle to convert the frozen ABCP into longer term floating-rate notes[9] (FRNs). The Pan-Canadian Investors Committee, of which ATB is a member, was established to oversee the orderly restructuring of ABCP during the standstill period.

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[9] Floating rate notes or FRNs are medium or long-term debt instruments with variable interest rate, adjusted periodically and tied to a money market index such as major banks Bankers' Acceptances.

What is asset backed commercial paper?

ABCP is short-term paper backed by assets

ABCP is a short-term investment, usually maturing in less than a year, but often in as little as a month. ABCP is backed by a variety of assets, such as mortgage loans, car loans, credit card balances, and other interest-bearing assets and/or by synthetic assets such as collateralized debt obligations[10] or credit default swaps[11]. The investor buys the paper for less than face value and holds the paper until it matures, at which point the investor receives the face value of the paper. The difference between the purchase price and the face value of the paper is interest income to the investor.

ABCP was popular because of higher yield

ABCP was popular with certain investors because it generally offered higher yields[12] than other short-term investments. ABCP is different from other types of commercial paper in that it is issued by trusts–either structured by banks (bank-sponsored ABCP) or by independent brokers (third-party sponsored or non-bank sponsored ABCP). About one-third of the Canadian market in ABCP was established and managed by non-banks or third-parties. Banks and other financial institutions would then sell the ABCP to investors.

ABCP had high credit ratings

A high credit rating, mostly triple-A or R1-high, was attached to these investments.

5.1.1 Business rules and operating procedures

Recommendation No. 12

We recommend that Alberta Treasury Branches develop and document the business rules and operating procedures required to implement the improved investment policy being developed.

Criteria: the standard we used for our audit

Management should develop a process to ensure investments are managed through systems of internal controls, including processes to identify, measure, and manage investment risks.

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[10] A collateralized debt obligation is an investment collateralized or referenced to a portfolio of debt.

[11] Credit default swaps are derivative contracts in which one party agrees to make variable payments to the other party if a specified credit event occurs in respect of a specific entity or security in exchange for a stream of prescribed fixed payment.

[12] At March 2007, Canada's third-party ABCP offered returns of 8 basis points greater than Bankers' Acceptance notes.

Our audit findings

We discuss below the actions ATB took leading up the ABCP market disruption in August 2007 and process changes ATB is now making. We have organized this section under the following headings:

- Business rules and operating procedures.
- Identification of US sub-prime mortgages as a financial risk.
- Process for purchasing investments.
- Monitoring of investments on the approved investment listing.

Rules and procedures not yet fully implemented

Business rules and operating procedures—ATB has not yet fully implemented all process changes discussed below and business rules and operating procedures have not yet been fully developed. ATB is still developing processes for analyzing and identifying financial risks in financial institutions that issue the majority of the investment products that ATB invests in.

We separately discuss our concerns with the investment policy in place at the time the ABCP market disruption occurred in section 5.4.3 (See page 139).

Identification of US sub-prime mortgages as a financial risk—Our audit findings on ATB's investment risk management system highlight an absence of well-defined processes and accountabilities to deal with identified risks. In the absence of well-defined processes and accountabilities, this system operated between March 2007 and August 2007 on the judgment, at the time, of the individuals involved.

Our audit findings are summarized as follows:

Procedures not well defined

1. ATB did not have strong processes in place to respond to identified risks and accountabilities were not well defined. For example, a small group of individuals in the credit department made decisions on the credit worthiness of ATB's ABCP, in consultation with GFM.

The Board was not involved in decisions

2. The senior management committees (Asset Liability Committee (ALCO) and the Credit Committee) and board (Credit and Financial Risk Committee) oversight committee were not involved in these decisions.

Credit department previously not involved

3. ATB's existing investment policy did not require the credit department to analyze the financial strength of ATB's investments. In fact, the credit department's analysis of ABCP for US sub-prime mortgages in March 2007 was the first time the credit department was involved with ATB's investment portfolio.

Review did not consider other risks

4. ATB's review of its ABCP investments in early 2007 only focused on identifying US sub-prime mortgage exposure. ATB did not consider other risks during the review.

Detailed description of activities between March 2007 and August 2007

GFM identified US sub-prime mortgages as a risk

GFM started to ask questions about exposure to US sub-prime mortgages in its ABCP investments in March 2007. Reports from the United States regarding US sub-prime mortgages appeared in the press at that time.

Credit department conducted a review of 11 ABCP holdings

GFM and the former ATB Treasurer[13] asked ATB's credit department to analyze ATB's ABCP investments to identify US sub-prime mortgage exposure in 11 specific trusts in March 2007. The 11 ABCP trusts were placed on the do not buy list until any potential US sub-prime mortgage exposure was investigated. ATB decided to let existing holdings of these 11 trusts mature and not to sell any of its existing holdings.

Focus of review was on identifying US sub-prime mortgage exposure

The credit department review focused on identifying US sub-prime mortgage exposure in the ABCP. This included a review of credit rating agency reports and discussions with ABCP sponsors or issuer trustees. If a trust had US sub-prime exposure, a decision was required on whether to allow further purchases of the trust.

Most of the exposure was removed except two cases

In most cases, trusts with US sub-prime mortgage exposure were removed from the approved investment listing. In two cases, ATB identified US sub-prime mortgage exposure existed but believed the trust's credit enhancement provisions[14] would mitigate the US sub-prime mortgage exposure. The combined investment in those two trusts at August 2007 was $135 million.

Trusts without US sub-prime mortgage exposure re-purchased

The credit department recommended the re-introduction of most of the 11 trusts to the approved investment list between April and June 2007 because they did not contain US sub-prime mortgage exposure. ATB began to re-purchase these trusts shortly after the recommendation to add them back to the list.

ATB divested itself of $300 million of ABCP

ATB ultimately divested itself of approximately $300 million of ABCP because the credit department review either identified US sub-prime exposure or was unable to confirm that the trust had no US sub-prime exposure. This $300 million was re-invested in bank-sponsored ABCP. The review resulted in ATB holding considerably less ineligible assets[15] compared to other large institutional investors (See Figure 3).

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[13] See Background section 6.5 of the report (page 147)

[14] Credit enhancement provisions are support designed to cover losses incurred by a particular pool of assets that, for example, could come in the form of a guarantee by a financial institution.

[15] Ineligible assets are those assets supporting one or more of the series of affected trusts being restructured under the Montreal Accord which have assets deemed ineligible for pooling in any of the Master Asset Vehicles by reason of their exposure to US sub-prime mortgages or other US home equity loans.

ATB did not invest in smaller ABCP programs

GFM did not invest in smaller third-party ABCP programs such as Selkirk, Ironstone, and Devonshire because its investment in those programs would have exceeded 10% of the total program. This strategy also reduced ATB's provision for losses as these three trusts had lower indicative weighted average asset values[16] than other trusts being restructured under the Montreal Accord.

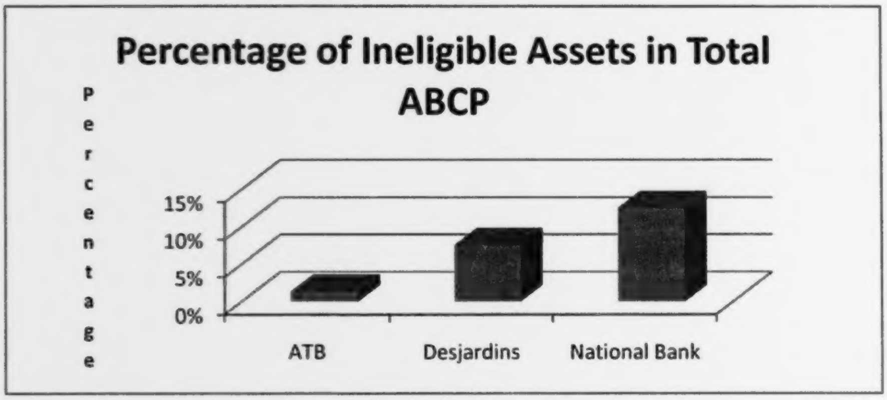

Figure 3

No unauthorized purchases were identified

We examined investment transactions between March 2007 and September 2007 to determine if investments on the do not buy listing were purchased. We did not find any unauthorized purchases or instances where investment policy limits were exceeded. We have concluded that ATB's procedures to ensure only authorized investments were purchased and that investment policy limits were not exceeded were effective during that period.

Two additional significant events of significance occurred leading up to the August 13, 2007 market disruption:

Increased credit spreads caused concerns

1. On August 1, 2007, GFM called a meeting with the former Treasurer, credit department staff, and middle office staff to discuss their concerns about increased credit spreads[17] for third-party ABCP. Credit department and middle office staff did not attend the meeting. At the meeting, the former Treasurer advised GFM to continue purchasing ABCP.

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[16] Indicative weighted average asset values were determined by JP Morgan and published in the March 20, 2008 *Information for Noteholders* related to the Proposed Restructuring of Canadian Third-Party Asset-Backed Commercial Paper prepared by the Pan-Canadian Investors Committee.

[17] Credit spreads are the difference in yield between different investments due to different credit quality. The credit spread reflects the additional net yield an investor can earn from an investment with more credit risk relative to one with less credit risk. The credit spread of a particular investment is often quoted in relation to the yield on a credit risk–free benchmark investment or reference rate. Increasing credit spreads signal that investors in the market perceive an increase in credit risk.

The question was asked "Do we stop our investment in ABCP?"

2. On August 9, 2007, GFM discussed stopping all investment in third-party ABCP with the former Treasurer. The former Treasurer advised GFM to continue investing in ABCP. The market disruption occurred on August 13, 2007. In hindsight, it was now too late to do anything.

The former Treasurer told us that he believed the credit spreads were increasing because the market was reacting to risks related to US sub-prime mortgages. He also believed ATB credit department's review earlier in 2007 had already dealt with this risk.

Process relied on credit rating

Process for purchasing investments—ATB maintains a listing of approved investments that comply with the investment policy. Before August 2007, ATB added investments to the list based solely on the rating from a single credit rating agency if the investment met the minimum credit rating requirements of ATB's investment policy. ATB added investments to the approved listing without completing its own investment analysis or obtaining a thorough understanding of the underlying assets of the investments.

Processes have been changed

The process for adding an investment to the approved listing has been changed and now requires:

1. An outside credit rating from two credit rating agencies.
2. A thorough investment analysis of the financial strength of the investment opportunity by an investment analyst through the completion of an investment application.
3. Review and adjudication of the investment application by the credit department.
4. Final approval by the management Credit Committee.

ATB imposed a deadline of August 31, 2008 to have all its current and all new investments undergo this new investment application and review process. Any investment not reviewed by this date will be removed from the approved listing.

Monitoring of investments on the approved investment listing—before July 2008, ATB monitored credit rating and credit spread changes of its investments on an informal basis. No individual at ATB had responsibility for this important role.

Risk monitoring processes have changed

Starting in July 2008, ATB hired an employee to monitor credit rating changes, credit spreads and market prices of its investments on a daily basis. ATB has also developed early warning signals (EWS) and defined roles and responsibilities of staff when an investment's credit rating deteriorates. The EWS are based on four different performance indicators. Each indicator is defined (i.e. what has to happen to qualify) and what particular course of action ATB must take when certain events occur.

Implications and risks if recommendation not implemented

There is a risk that investment processes will not be consistently followed if business rules and operating procedures are not well defined.

5.1.2 Performance targets

Recommendation

We recommend that Alberta Treasury Branches improve its process for establishing Global Financial Market's performance targets by discussing the targets with the senior Asset Liability Committee (ALCO) and maintaining evidence that supports decisions made.

Criteria: the standards we used for our audit

- Management should develop a process to ensure investments are managed through systems of internal controls, including processes to identify, measure, and manage investment risks.
- The Board should outline the content and frequency of reporting to the Board by management.

Our audit findings

We have organized our audit findings in this section under three main headings: Review and challenge of performance targets; Evidence to support decisions; and Continually increasing performance targets. This recommendation relates to the performance target setting process.

Review and challenge of performance targets

Decisions were not reviewed and challenged

The decision making process on GFM performance targets did not allow for sufficient review and challenge of the performance targets by ALCO or the Board. The former CEO[18] made the final decision on the GFM performance targets. We found:

- The former CEO, former Treasurer, and GFM met in late March 2007 to finalize the GFM performance targets for 2007-08 which included interest spread targets[19].
- GFM and the former Treasurer proposed an interest rate spread performance target consistent with the previous year of 14 basis points or $3,780,000 in annual net income.

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[18] See Background section 6.5 of the report (page 147)

[19] The interest spread target of 14 basis points or $3,780,000 in annual net income is the difference in interest rates that ATB pays to its customers on money market deposits or large dollar deposits that it collects compared to the rate of return it generates on re-investing that money in the financial markets.

- At the meeting, the former CEO increased this performance target by 2 basis points or $540,000 in additional annual net income.

The decision by the former CEO to increase performance targets and the decision by the former Treasurer in March 2007 to stop investing in certain ABCP were at odds. We were told by the former Treasurer that he made his decision knowing that it would negatively impact GFM's ability to meet its performance target.

Evidence to support decisions

Risks were not evaluated

The decision to raise the interest rate spread performance target was made by the former CEO despite warnings about increased risk. The reasons to support increasing this performance target from the original proposal and how this target would be achieved within ATB's risk appetite were not transparent. We found:

- GFM's proposal described the reasons for maintaining the performance target at the same level as the previous year. Those reasons included:
    a) ATB's ability to increase interest spread would require increasing the risk profile beyond acceptable levels or reducing interest rates paid on deposits. The latter would drastically reduce deposits resulting in cash outflows and liquidity risks.
    b) Anticipated downward pressure on interest spreads resulting from potential decreases in ABCP holdings due to rating-related issues as well as potential risks associated with US based sub-prime lending.
- The proposal presented to the former CEO also quantified the impact of replacing the highest yielding ABCP (third party ABCP) with other commercial paper. The lost yield would have been approximately 2 basis points or $540,000 in annual net income.

Continually increasing performance targets

Targets had been continually increased

Increasing performance targets contributed to ATB's exposure to third-party ABCP. These investments were the highest yielding commercial paper available. ATB's interest spread performance targets were increased from 2006 to 2008, as follows:

- 11 basis points for 2006
- 14 basis points for 2007
- 16 basis points for 2008

We were told by the former Treasurer and former CEO that performance targets had been continually increased because GFM had continually exceeded the targets.

Implications and risks if recommendation not implemented

Performance targets may be increased above and beyond ATB's current acceptable risk tolerances if performance targets are not established with due consideration for the current investment risk environment and if decisions are not well documented and transparent, and challenged.

5.1.3 Variable pay program

Recommendation

We recommend that Alberta Treasury Branches complete its business rules on how variable pay is calculated for Global Financial Markets' staff by clarifying how to deal with:

- **revenue not collected**
- **investment losses**

Criteria: the standards we used for our audit

Management should develop a process to ensure investments are managed through systems of internal controls, including processes to identify, measure, and manage investment risks.

Our audit findings

Variable pay for Global Financial Markets (GFM)

Variable pay program is based on achieving targets

GFM's variable pay program is based on the achievement of performance targets. The interest rate spread performance target (discussed in section 5.1.2) is part of the variable pay program. The total variable pay for GFM staff for 2007-08 was $202,000 for eleven staff and ranged anywhere from 7% to 34% of an individual staff member's salary. While the amount is not significant to ATB's financial results–it is significant to individuals within GFM and motivates decision makers to behave in ways to exceed targets.

Rules do not deal with uncollected revenues and investment losses

GFM's variable pay business rules do not deal with uncollected revenue or investment losses. ATB included returns on certain frozen ABCP in its calculation of interest spread for 2008. However, the interest to note holders has yet to be paid and it is not certain all interest will be collected.

2008 targets were exceeded and maximum payout awarded

In 2008, the spread target was exceeded and the maximum variable pay was earned by GFM staff even though ATB recorded a provision for loss on ABCP of $253 million. GFM's current performance targets do not take into account losses in value of investments. This is not consistent with ATB's primary investment objective of "safety of investment principal" which was added to the investment policy as part of the November 2007 policy update.

Implications and risks if recommendation not implemented
If there are no consequences for not achieving objectives, then individuals in GFM are rewarded for not meeting corporate objectives.

The effect of the provision for losses on variable pay for ATB staff

We provide the following facts to answer the question—Did ABCP losses affect the pay of ATB staff outside of GFM?

A portion of all variable pay is based on corporate net income

A portion of all ATB employees' variable pay is based on corporate results. For that component of the variable pay program, corporate results are based on balance sheet growth and actual net income exceeding targeted net income. The net income for 2007–08 was $30 million (2007 $274.3 million) compared to the targeted net income of $262 million. ATB has a policy that states if net income was below 50% of the target then no variable pay would be paid.

Provision for ABCP losses had minimal effect on variable pay

Notwithstanding the policy, on May 15, 2008, the ATB Board of Directors decided to minimize the effect on variable pay of the provision for losses on ABCP. It approved a variable pay decision for 2007-08 that resulted in the $253 million provision for losses on ABCP and $2 million in ABCP restructuring costs having:

- no impact on non-executive ATB staff as corporate net income for non-executives was determined to be $287 million[20] compared to targeted net income of $262 million (109.6%).
- a small impact on executives as the provision was capped at 10% of budgeted net income or $26.1 million resulting in net income for executives being $261 million[21] compared to targeted net income of $262 million (99.6%).

Board judgment

The minutes of the board meeting show that the Board, after deliberation, determined that the variable pay policy should be overridden for the year ended March 31, 2008. The Board's judgment was based on its assessment of the consequences to staff morale and retention from applying the policy to corporate results significantly impacted by the large provision for losses.

$26.1 million in bonuses earned

Total current and deferred variable pay earned by ATB staff in 2007–08 was approximately $26.1 million (2007 $28.7 million).

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[20] Equal to $30 million net income (from 2007-08 financial statements) plus $253 million ABCP provision plus $2 million in ABCP restructuring costs plus other miscellaneous items of $2 million

[21] Equal to $30 million net income (from 2007-08 financial statements) plus $253 million ABCP provision plus $2 million in ABCP restructuring costs plus other miscellaneous items of $2 million less 10% of budgeted net income ($26.1 million)

5.2 Liquidity

5.2.1 Liquidity reporting

Recommendation

We recommend that Alberta Treasury Branches agree internally on a consistent measure of liquidity and report that measurement to the Board and to the Department of Alberta Finance and Enterprise to provide regular and fair reporting.

Background

A large portion of ATB's (and all financial institutions) liabilities may be short-term or on demand, while most of its assets are invested in long-term loans. Liquidity risk arises due to the mismatch between the maturity of assets (loans) and liabilities (deposits). Therefore, ATB needs to have sources of cash to meet short-term demands. This is why managing liquidity is critical. We describe liquidity further in sections 6.3 and 6.9.

Liquidity ratio is main measurement tool

The liquidity ratio is the liquidity measurement tool used daily by ATB to measure its liquidity. It is calculated as liquid assets divided by total assets. ATB's tries to maintain that ratio above a minimum target of 10%.

Criteria: the standards we used for our audit

- Management should report comprehensively and regularly on the achievement of liquidity objectives.
- The Board should outline the content and frequency of liquidity risk management reporting to the Board by management.

Our audit findings

ATB does not consistently calculate and report its liquidity ratio.

Liquidity reporting to Board can be improved

- Management reports quarterly to the Board the ratio for the last business day of the quarter and provides no intra-quarter information, does not identify the average liquidity position for the quarter, or the specific dates and daily measurements during the quarter when ATB was not in compliance with its minimum liquidity position.

Different results reported to different groups

- The ATB finance department calculate and report ATB's liquidity position to the Audit Committee quarterly. This calculation is different from the calculation performed by treasury reported to ALCO, Credit and Financial Risk Committee and Alberta Finance and Enterprise.

Illiquid notes initially included in liquidity calculation

- Management included illiquid floating rate and extendible notes frozen in August 2007 as part of the ABCP market disruption as liquid assets in its liquidity calculation from August 2007 to March 2008. These notes were illiquid assets during that time period and should not have been included as liquid assets in the calculation. The liquidity reports provided to ALCO, the

Board and Alberta Finance and Enterprise for this period showed the liquidity level of ATB to be above the minimum guideline. When the illiquid notes were removed from the calculation, ATB's liquidity level fell below the minimum guideline on certain days during the period. ATB informed ALCO, the Board and Alberta Finance and Enterprise of the mistake in March 2008.

Implications and risks if recommendation not implemented

The Board and Alberta Finance and Enterprise may not be aware of the liquidity position of the institution and how management is managing liquidity risks if they do not get regular, fair, comprehensive and accurate reporting.

5.2.2 Liquidity simulations

Recommendation

We recommend that Alberta Treasury Branches further expand its use of liquidity simulations as a forward looking liquidity risk measurement tool. We also recommend that ALCO and the Board oversight committee consider whether the results of liquidity simulations indicate a need to modify its business plan.

Background

Liquidity simulations are forward looking liquidity risk measurement tools that provide management with data to support liquidity management and funding decisions. The Alberta Finance and Enterprise Liquidity Guideline requires that ATB complete two scenarios or simulations: the going concern condition and an ATB specific disruption.

Criteria: the standard we used for our audit

Management should develop a process to ensure liquidity risk is managed through systems of internal controls, including processes to identify, measure, and manage liquidity risks.

Our audit findings

Limited liquidity simulations are used

ATB performs limited liquidity simulations as part of its liquidity risk management processes. These simulations currently include increases in the loan portfolio modeled against decreases in deposits. ATB also simulates a going concern model based on its business plan.

Liquidity disruption scenarios not modeled

ATB has not modeled ATB specific liquidity disruption scenarios or other useful scenarios such as the impact of an inability to borrow, a lack of liquidity in its investment portfolio, or an inability to raise funds through the securitization market.

Treasury management use liquidity simulations performed for operational purposes but do not report these results to ALCO or the Board oversight committee.

Implications and risks if recommendation not implemented

ATB may limit its ability to anticipate and develop strategies to deal with potential liquidity disruptions by not implementing expanded liquidity simulations as a regular part of its liquidity risk management process.

5.2.3 Liquidity contingency plan

Recommendation No. 13

We recommend that Alberta Treasury Branches develop a comprehensive liquidity contingency plan to be better prepared for a liquidity crisis and to fully comply with Alberta Finance and Enterprise's Liquidity Guideline. The plan should be updated and approved regularly.

Background

Contingency plan describes how to deal with abnormal situations

The liquidity contingency plan is an internal document describing an organization's approach to funding and abnormal liquidity situations. The Alberta Finance and Enterprise Liquidity Guideline states effective contingency plans should consist of several components:

- specific procedures to ensure timely and uninterrupted information flows to senior management;
- clear division of responsibility within management in a crisis;
- action plans for altering asset and liability behaviours (i.e., market assets more aggressively, sell assets it originally intended to hold, raise interest rates on deposits);
- an indication of the priority of alternative sources of funds (i.e., designating primary and secondary sources of liquidity);
- a classification of borrowers and customers according to their importance to the company to maintain customer relationships; and
- plans and procedures for communicating with the media.

Criteria: the standard we used for our audit

Management should develop a process to ensure treasury is managed through systems of internal controls, including processes to identify, measure, and manage treasury risks.

Our audit findings

Current liquidity contingency plan needs improvement

The current liquidity plan documents the different sources of funds that could be available over the immediate, short and long term. The current plan does not include several of the components required by the guideline including:

- specific procedures to ensure timely and uninterrupted information flows to senior management;
- clear division of responsibility within management in a crisis;
- a classification of borrowers and customers according to their importance to the company in order to maintain customer relationships; and
- plans and procedures for communicating with the media.

The existing plan does not contain up to date information on the level of bearer deposit notes and medium term notes to which ATB has access. There is also no formal process to periodically update and approve the plan.

Liquidity contingency plans in financial institutions would:

- Provide an overview of the organization's approach and philosophy regarding the funding of its on-going "normal" business activities:
    - preferred funding sources and other funding sources.
    - funding diversification.
    - maturity limits.
    - uses of funding.
- Identify a range of possible liquidity scenarios that represent elevated levels of liquidity risk to the organization.
- Describe the "early warning signals" that would result in the organization defining itself in a liquidity crisis and at which level of a liquidity crisis.
- Discuss the procedures to monitor these triggers.
- Define escalation procedures from one level of liquidity crisis to the next.
- Describe different strategies and action plans that management may consider in each level of a liquidity crisis.
- Identify escalated monitoring procedures and management practices and responsibilities during the liquidity crisis.

Examples of early warning signals related to liquidity:
Third party indicators

- Increase in funding costs and a decrease in the availability of borrowing.
- Counterparties begin to request collateral for accepting credit exposure to the financial institution.
- The financial institution receives requests from depositors for early withdrawal of their funds.

Internal indicators

- increased volatility in liquidity position.
- larger variances between forecasted and actual liquidity levels.
- a decline in financial performance.
- increased instances of early maturity of investments to meet liquidity requirements.
- unanticipated excess cash levels.
- a negative trend or significantly increased risk in any area or product line.

Implications and risks if recommendation not implemented

ATB may be less prepared to identify and manage liquidity risk if its liquidity contingency plan is not comprehensive.

5.3 Interest rate risk

5.3.1 Interest rate risk reporting

Recommendation No. 14

We recommend that Alberta Treasury Branches provide better—more qualitative and quantitative—reporting to senior management and the Board on its interest rate risk management.

Background

We describe interest rate risk in section 6.3. Reporting on interest rate risk to senior management and the Board is important because it may indicate a need for ATB to modify its risk management and product pricing strategies.

Criteria: the standards we used for our audit

- Management should report comprehensively on the achievement of interest rate risk management objectives.
- The Board should outline the content and frequency of interest rate risk management reporting to the Board by management.

Our audit findings

Limited interest rate risk reporting is provided

Management provides limited interest rate risk (IRR) reporting to ALCO and the Board. Management reports to ALCO and the Board the impact on net income and the market value of equity[22] of downward interest rate movements of 100 and 200 basis points. The current reporting also provides information regarding compliance with IRR limits. However, the current reporting does not include the following information:

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[22] Market Value of Equity (MVE) provides a measure of the underlying value of the bank's current equity position and seeks to evaluate the sensitivity of that equity value to changes in interest rates. This measurement approach focuses on how the economic value of all bank assets, liabilities and interest rate related, off balance sheet instruments change with the movement of interest rates. The MVE equals the present value of their future cash flows. By evaluating changes in interest rates, one can estimate the change in a bank's economic value.

- all major sources of IRR exposure.
- material movements in the IRR sensitivity from one reporting period to the next.
- historical IRR exposure or trends.
- an evaluation of past IRR strategies and potential new strategies.

Expanded reporting will allow senior management and the Board to understand specific reasons for the IRR results and assist them in:

- comparing results to those of the previous periods.
- assessing the viability of new strategies and the results of previous strategies.
- reassessing whether the limit structure in place continues to be appropriate given any current trends.

Implications and risks if recommendation not implemented

The ability of senior management and the Board to make strategic decisions on interest rate risk management and the appropriateness of risk mitigation strategies may be limited without good information–both quantitative and qualitative.

5.3.2 Interest rate risk model assumptions

Recommendation

We recommend that Alberta Treasury Branches improve processes for creating, applying and validating assumptions used in its interest rate risk models.

Background

Modeling output is useful in decision making

Interest rate risk modeling provides management with information to evaluate how sensitive ATB's net income and the value of its balance sheet are to changes in interest rates. Management develops product pricing and hedging strategies based on the information from its modeling process. For example, management makes decisions to purchase derivatives to hedge interest rates based on model output.

Modeling is an assumption driven process

Interest rate risk modeling is an assumption driven process. Assumption risk represents a significant risk to the measurement of interest rate risk and can potentially result in very different risk measurements. For financial institutions, the preferred method of developing modeling assumptions is to collect and perform analysis of historical data. Analytical approaches are used to perform analysis of the data with the objective of defining scenario specific assumptions. All assumptions become dated over time, so it is critical to provide for the ongoing collection of data and periodic analysis of data to calibrate the assumptions.

The key modeling assumptions used by ATB in its interest rate risk modeling are its:
- balance sheet growth assumptions.
- loan prepayment assumptions.
- market value of equity assumptions for non-maturity deposits.

Criteria: the standard we used for our audit
Management should develop a process to ensure interest rate risk is managed through systems of internal controls, including processes to identify, measure, and manage interest rate risks.

Our audit findings

Data used to develop assumptions made

Data needs to be captured to support assumptions used

ATB does not have the historical data or the analytical resources to perform the level of comprehensive analysis required to support institution and scenario specific modeling assumptions. Currently, modeling assumptions used are based on management judgment, conversations with peers at other financial institutions and limited analysis. Data used in the models do not capture the optionality characteristics for ATB deposit and loan products. For example, certain deposit and loan products have interest rate caps and floors that management is not modeling.

Review, update and approval of assumptions

ATB does not have:
- formal processes to review, update and approve model assumptions used.
- change control procedures over changes of model assumptions and model settings in the system

Reporting of assumptions

Assumption processes could be improved

Information on key model assumptions, sensitivity analysis (or the potential impact of assumption error), changes to assumptions, and the reasons for and impact of changes in assumptions is not provided to ALCO or the Board's Credit and Financial Risk Committee.

Comparison of assumptions to actual results

Back-testing is needed

ATB does not have a process to compare its assumptions to actual results to assess the accuracy of assumptions used.

Implications and risks if recommendation not implemented
Management may base their product pricing and risk mitigation decisions on unreliable information if interest rate risk modeling assumptions are inaccurate.

5.3.3 Interest rate risk modeling and stress testing

Recommendation
We recommend that Alberta Treasury Branches define its significant interest rate risk exposures and model those significant exposures to assess the effects on future financial results.

Background
Interest rate risk modeling and stress testing provides management with insights into determining the impact of scenarios on the organization and assessing what scenarios are potentially stressful to the organization. This helps management develop meaningful strategies to deal with these scenarios. Additionally, stress testing allows management to identify early warning signals management can monitor to determine if a stress scenario is developing.

The following definitions and discussion will help readers understand what interest rate risk is and how it arises. Interest rate risk can take many forms and arises based on the nature and mix of an institution's products and activities. Interest rate risk exposure can be broken down into:

Re-pricing risk—re-pricing risk occurs due to the timing of interest rate changes and maturities which can occur in a rising, declining or flat interest rate environment. Re-pricing risk is often the most noticeable form of interest rate risk for a financial institution.

Basis risk—Basis risk occurs in variable interest rate products when the interest rate spread between two different rates widens or contracts. Since variable rate products are indexed to either a market index or an internally managed rate certain indices may lag the market rate movements which can slow or accelerate the impact of basis risk.

Yield curve risk—Yield curve risk occurs due to changes in the shape of the yield curve. Possible examples of changes in the shape of the yield curve are: flattening, steepening and declining.

Option risk—Option risk occurs when a customer or the financial institution has the ability to alter transaction terms and cash flows. In general, options will only be exercised if there is a benefit to be gained by the holder of the option.

Common examples of product options are prepayments for loans or interest rate commitments.

Criteria: the standard we used for our audit

Management should develop a process to ensure interest rate risk is managed through systems of internal controls, including processes to identify, measure, and manage interest rate risks.

Our audit findings

Interest rate risk modeling

Certain risks are not modeled

ATB does not currently model basis and option risk and has not assessed whether these risks are material to ATB.

Interest rate risk stress scenarios

Limited stress testing performed

ATB performs limited interest rate risk stress scenarios related to the steepening and flattening of yield curves.

Meaningful scenarios need to be defined

Industry trends and practices are for management to define meaningful stress scenarios that apply to the organization. This is a customized process because what is stressful to one organization may not be that material to another organization. Examples of stress testing used by other financial institutions include, but are not limited to:

a) Extreme changes in market rates (e.g. 300 basis point or more)
b) Significant changes in the mix of the balance sheet holdings (e.g., rapid loan growth combined with declining levels of deposits)
c) External events (e.g. rapid acceleration of prepayment speeds)
d) Inability to raise funding or a sudden and rapid loss of deposits/funding
e) Other events (e.g. weather, terrorism, changes in competitive environment, etc.)
f) Inability to access the securitization markets
g) Significant and rapid changes in the national or provincial economy
h) Unexpected and significant losses due to credit, operational or other forms of risk
i) A range of possible basis risk scenarios. Approaches commonly used include testing for the widening of a basis risk spread or a negative basis risk spread.
j) Unusual changes in the shape of the yield curve (e.g. steepening, flattening, etc.).
k) A combination of some or all of the above

Implications and risks if recommendation not implemented

If ATB does not perform periodic scenarios to evaluate its potential interest rate risk exposure from different sources, management may not be fully aware of its interest rate risk exposures resulting in unexpected financial losses.

5.3.4 Interest rate risk controls

Recommendation

We recommend that Alberta Treasury Branches put in place controls necessary to ensure consistent measurement of interest rate risk.

Criteria: the standard we used for our audit

Management should develop a process to ensure interest rate risk is managed through systems of internal controls.

Our audit findings

Input controls—Approximately 500 market rates are manually entered into the interest rate risk management system on a monthly basis and there is no second level review for accuracy of the data entered. Assumptions are also entered into the model and there is no second level review for accuracy of assumptions entered.

Review and approval—ATB does not maintain documentation of the review and approval of the interest rate risk modeling results.

Change management controls—A formal change management system for changes to model settings and assumptions does not exist.

Access controls—Multiple ATB staff share one user name and password for the interest rate risk modeling system reducing the effectiveness of any audit tools in the modeling software which track changes to data and system configuration.

Implications and risks if recommendation not implemented

The output of the interest rate risk model may be inaccurate if the controls over data input, change management, staff access, and reviews and approvals do not exist.

5.4 Global recommendations that cross different treasury functions

5.4.1 Role and use of middle office

Recommendation

We recommend that Alberta Treasury Branches expand the role of its middle office[23] to include responsibilities for monitoring interest rate risk. We also recommend that management ensure the middle office has the necessary resources to monitor foreign exchange activities and fulfill its other responsibilities.

Background

Role of the middle office

The middle office was a department established by ATB in 2006 to monitor market risk and certain policy requirements for derivative activities. In treasury, segregation of duties should exist between the front office, which executes trades in the market, the back office, which settles those trades, and a middle office, which monitors risk and compliance with certain policies and limits. ATB's middle office's initial role was expanded in 2007-08 to include monitoring of investments and foreign exchange activities.

Criteria: the standard we used for our audit

Management should develop a process to ensure treasury is managed through systems of internal controls, including processes to identify, measure, and manage treasury risks.

Our audit findings

Segregation of duties and monitoring can be improved

ATB's core treasury group monitors and reports on interest rate risk exposure. That same group also creates the hedging strategy and executes corporate derivative transactions that hedge interest rate risk exposures. Monitoring should be transitioned to the middle office to better segregate transaction initiation, monitoring and reporting duties and ensure an independent review of compliance with interest rate risk limits. The execution of corporate derivative transactions should also be segregated to GFM.

The head foreign exchange trader currently executes foreign exchange trades, monitors risk and reports on ATB's foreign exchange exposures. Foreign exchange exposures are reported daily to the middle office but resource constraints have limited the middle office's ability to actively monitor risk in this area.

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[23] The Middle Office monitors market risk, values securities and derivatives, and ensures compliance with certain treasury limits/policies

More resources are needed to fulfill its role

The middle office has numerous responsibilities in the current derivative (October 2006) and investment (November 2007) policies. Middle office is required to regularly perform simulations of the derivative portfolio and develop derivative stress testing. These processes have not been regularly performed or formally developed. The investment policy requires middle office to perform stress testing. This has also not been completed.

Implications and risks if recommendation not implemented

ATB may not appropriately monitor and manage its derivative, interest rate, and foreign exchange risks if adequate resources are not available and if proper segregation of duties is not present.

5.4.2 Treasury information systems

Recommendation

We recommend that Alberta Treasury Branches:

- **evaluate its current treasury information systems against its business requirements**
- **develop and implement a treasury information technology plan to upgrade its tools**

Background

Various information systems are used

ATB treasury uses a number of information systems and over 100 spreadsheets to help it manage its treasury activities.

Criteria: the standard we used for our audit

Management should develop a process to ensure treasury is managed through systems of internal controls including development and implementation of management reporting systems.

Our audit findings

Time is spent compiling not analyzing

ATB spends significant time compiling data from multiple systems and sources which reduces time available to analyze data and monitor risk. Currently, ATB does not have an integrated treasury management information system. Multiple information systems and spreadsheets are used by treasury and middle office staff. The current use of spreadsheets and multiple information systems exposes ATB to operational risk (the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events).

Observations

We noted the following recurring observations related to ATB's treasury information systems:

- Real time reporting of positions and exposures is not available.
- The same information is maintained in multiple information systems.

- Data is manually entered into one system and then re-entered into another system as automated interfaces do not exist.
- Calculations of interest on certain investments require manual intervention and adjustment.
- Certain derivatives can only be valued monthly because of the time required to value these instrument daily.
- A significant amount of reliance is placed on spreadsheets accessed by multiple people increasing the risk that data could be over-written or lost.

Implications and risks if recommendation not implemented

- Operational risk in treasury is increased because of the significant use of spreadsheets and the poor internal controls associated with spreadsheets.
- The effectiveness of ATB treasury staff is reduced because of the limited real time reporting currently available and the time spent compiling data from multiple information systems and sources rather than analyzing and interpreting information.

5.4.3 Treasury policies

Recommendation

We recommend that Alberta Treasury Branches implement the updated investment and derivatives policies for changes arising from its recent review of those policies. We also recommend that ATB review the financial risk management policy.

Background

Treasury operates under the investment, derivatives, and financial risk management policies. The policies are presented and recommended by management for approval by the Board annually.

Criteria: the standard we used for our audit

Management should develop and implement appropriate treasury policies which support the achievement of ATB's objectives.

Our audit findings

ATB has treasury policies in place but we have identified the following weaknesses with the treasury policies examined:

- Derivative policy (October 2006)
- Investment policy (November 2007)
- Investment policy (October 2006)

- Financial risk management policy[24] (November 2007).

Investment policies

The October 2006[25] investment policy contained the following weaknesses:

- ATB's investment objectives and risk philosophy were not clearly stated. The objective of preservation of capital was not clearly stated. The policy describes the risk philosophy as realizing the highest yield available while observing the conservative credit risk limits and guidelines approved by the Board.
- Portfolio diversification limits were in place however the limits did not allow for true diversification as the investment portfolio limit for asset backed commercial paper was set at 60% of the portfolio.
- Roles, responsibilities and reporting were not well defined in the policy. The policy referred to reporting to be provided to ALCO and the Board but did not specify what information should be contained in these reports. In fact, the Board never did see the detailed listing of investment holdings until after the market disruption in August 2007. The policy listed responsibilities of management and the middle office but did not delegate certain tasks to specific job titles or positions.
- Investments were allowed to be placed on the approved investment listing based on an acceptable credit rating from only one external credit rating.

The investment policy approved in November 2007 corrected a number of weaknesses in the October 2006 investment policy. However, we noted the following weaknesses with the November 2007 investment policy:

- The policy is not clear on when hedging of the investment portfolio should be performed.
- It is not clear in the policy how the portfolio will be evaluated and what are ATB's rate of return expectations.
- The methodology used for stress testing the investment portfolio is not defined and the limits used and reporting/action steps to be taken are not clearly outlined. The frequency of stress testing is also not clearly defined.

Derivative policy

We also examined the derivative policy dated October 2006 in place from October 2006 through to August 2008 and noted the following weaknesses with the policy:

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[24] The financial risk management policy contains ATB's policy on liquidity, asset liability management (interest rate risk management) and foreign exchange.

[25] We examined the October 2006 investment policy because it was the policy in place when the ABCP market disruption occurred. It was revised and updated in November 2007.

- The policy includes both the corporate and client derivative programs making it unclear in certain areas of the policy what rules apply to which program.
- The derivative, credit, and financial risk management policies all contain information on derivatives which makes the policies fragmented.
- The policy mentions that stress tests and simulations should be performed but is not clear on what those should be, who should perform them, and any limits to be used that would require further management actions.
- The policy contains a significant amount of procedural requirements that should be moved to operating procedures.
- While not explicitly part of the policy review, we did note that operating procedures have not been defined by ATB for the monitoring of collateral obligations when collateral limits for derivative counterparties have been exceeded.

Financial risk management policy

The financial risk policy contains ATB's policies for liquidity, foreign exchange and interest rate risk management. This policy has several deficiencies:

- The policy is procedural in nature and does not clearly describe the roles and responsibilities of management, ALCO and the Board for risk management.
- The policy contains minimal information on the use of limits for liquidity and interest rate risk management. The use of warning signals and escalation procedures are not well defined.
- The policy discusses scenario testing to be performed but does not in all cases describe what scenario tests will be performed, frequency of the tests, and how the results of those tests will be reported.
- The foreign exchange section of the policy does not describe ATB's foreign exchange objectives.

Revisions to investment and derivative policies

In spring 2008, ATB engaged an international accounting firm to assist it with reviewing and revising its investment, derivatives and credit policies. These revisions were drafted throughout the summer of 2008 and will be presented to the Board for approval in August 2008.

Implications and risks if recommendation not implemented

Management decisions and actions may not be within the risk tolerance of the organization if policies are not clear and well designed.

5.4.4 Role of ALCO

Recommendation No. 15

We recommend that Alberta Treasury Branches review the role of the Asset Liability Committee (ALCO) and consider restructuring it into two tiers.

Background

ALCO is currently responsible for:

- Establishing the minimum and maximum interest rates for all deposit and loan programs.
- Managing and monitoring of interest rate risk.
- Approving terms, conditions and pricing of all loan and deposit programs as they relate to asset/liability management.
- Monitoring risk management for liquidity, short term investments, long term investments, foreign exchange deposit limits and derivatives.
- Approving the level of liquid assets held as collateral to secure potential advances from the Bank of Canada.

ALCO meets weekly and focuses on:

- Review of investment portfolio limits.
- Discussion of economic outlook.
- Review of balance sheet and product pricing matters.
- Overview of the asset liability management report.

Criteria: the standard we used for our audit

Management should develop a process to ensure treasury is managed through systems of internal controls, including processes to identify, measure, and manage treasury risks.

Our audit findings

From our review of meeting minutes between April 2007 and April 2008 and our attendance at the June 25, 2008 ALCO meeting we noted:

Meetings are operational

- The meetings are generally operational in nature and focused on limit compliance, operational updates and product pricing decisions.

Strategic discussion minimal

- Substantive discussion regarding treasury strategy, the drivers of risk, or the impact of the information on the overall management of the risk profile of ATB was minimal.

All members of the committee did not attend meetings

- The terms of reference identify the senior executives that are on the Committee. They are the Treasurer, CEO, former Chief Operating Officer, VP-Marketing, Executive VP-Credit, Director of Treasury, VP-GFM and VP-Legal Services. The VP-Internal Audit is an observer.

These senior executives, outside of the Treasurer, VP-GFM and Director of Treasury, rarely attended the meetings. They sent delegates in their place. All ATB business lines are not represented on the committee.

Industry trends and practices for ALCO

Industry trends are for ALCO to be split into strategic ALCO and tactical ALCO

Recognizing the importance of both tactical and strategic discussions and decision making and that it is difficult to accomplish both in the same forum, many financial institutions have transitioned to a two tier ALCO structure. This structure is as follows:

- Tactical ALCO—meets weekly and focuses on tactical issues such as transaction review/approval, product pricing decisions and other matters that require frequent overview or decisions. Membership is a combination of senior and mid level management.
- Strategic ALCO—membership includes executive management personnel only. Meets monthly and focuses on more strategic issues such as:
  a) Detailed discussion of the risk profile and reasons for changes related to interest rate risk, liquidity risk, and investment portfolio decisions.
  b) Determine how this information can be leveraged to make informed risk decisions regarding the management of the organization.
  c) Discuss, evaluate and potentially approve possible risk mitigation and balance sheet management strategies.
  d) Evaluate the effectiveness of previously approved risk mitigation strategies.

Implications and risks if recommendation not implemented

Strategic direction and risks related to treasury may not be managed appropriately without the attention and involvement of senior executives across all business lines.

5.5 Derivatives

5.5.1 Internal audit program

Recommendation

We recommend that Alberta Treasury Branches internal audit department regularly examine all types of Alberta Treasury Branches' derivative activities to:

- **promptly identify and rectify internal control weaknesses**
- **fully comply with the Alberta Finance and Enterprise Derivatives Best Practices Guideline**

Background

Guideline requires inspections

The Alberta Finance and Enterprise Derivatives Best Practices Guideline dated January 2008 has several requirements for ATB related to internal inspection programs, including:

- A requirement for ATB to have an internal inspection program that includes coverage of its financial derivatives activities that ensures timely identification of internal control weaknesses and operating system deficiencies.
- The internal inspection function must be independent of the functions and controls it inspects.
- Internal inspection coverage should be provided by competent professionals who are knowledgeable of the risks inherent in derivatives.

We have identified ATB's internal audit department as the internal inspection function.

Criteria: the standards we used for our audit

- Management should develop a process to ensure that an independent function periodically reviews and assesses its derivative activities.
- Management should develop and implement appropriate derivative policies which support the achievement of ATB's objectives, including compliance with Alberta Finance and Enterprise Guidelines.

Our audit findings

Audits have not been completed

ATB's internal audit has not audited all types of ATB's derivative activities and ATB is not complying with this requirement contained within the Alberta Finance and Enterprise Derivatives Best Practices Guideline. Management has informed us that ATB's internal audit department started an audit of ATB's client derivative activities in the summer of 2008.

Implications and risks if recommendation not implemented

- Internal control weaknesses and operating deficiencies may go unnoticed if regular independent inspections are not performed.
- A risk exists that ATB is not fully complying with the Alberta Finance and Enterprise Derivatives Best Practices Guideline.

6. Background

6.1 ATB background and regulatory environment

Provincially owned financial institution

ATB is a provincially owned full-service financial institution operating in Alberta with assets over $24 billion at March 31, 2008. As a crown corporation, ATB operates under the provisions of the Alberta Treasury Branches Act and

Alberta Treasury Branches Regulation and under the direction of a board of directors appointed by the Lieutenant Governor in Council. The ATB Board of Directors is accountable to the Alberta Minister of Finance and Enterprise.

Focus of audit was on treasury systems

Our audit focused on the treasury systems within ATB. We defined the treasury systems as the systems used by ATB to manage interest rate risk, financial risk within the investment portfolio, foreign exchange risk, liquidity risk, and credit risk related to ATB's investment and corporate derivative portfolios.

Board approves policies and management implements them

ATB's Board of Directors reviews and approves the investment, derivative, credit and financial risk management policies of the institution. Management implements those policies through the design of systems, processes and risk management techniques to meet the requirements of its regulatory framework and guidelines issued by the Alberta Minister of Finance and Enterprise. Three of these guideline relate specifically to treasury:

1. Liquidity
2. Prudent person approach
3. Derivatives best practices

6.2 Treasury management

Treasury has three core functions

Treasury management at ATB has three core functions: cash management, funding and risk management.

- Cash management refers to the process of effectively planning, monitoring and management of liquid or near-liquid resources. Cash management also involves cash flow forecasting, monitoring daily cash requirements, and investing surplus funds or borrowing funds.
- Funding involves determining funding requirements, raising funds and liability management.
- Risk management is the process of mitigating risks that the organization does not want to completely assume.

6.3 Financial institution treasury risks

Treasury risks

As a financial institution, ATB is exposed to the following risks:

- Credit risk—that a counterparty will cause a financial loss for ATB by failing to discharge a financial or contractual obligation.
- Market risk—that ATB may incur a loss caused by adverse changes in market prices.
- Foreign currency risk—that ATB may incur a loss caused because of changes in foreign exchange rates.
- Interest rate risk—that ATB may incur a loss caused because of changes in market interest rates.

- Liquidity risk—that ATB will be unable to meet its obligations as they come due or fund itself at economical levels.

6.4 Board oversight committee and senior management committees

Board and senior management committees

The main responsibility for managing these risks rests within the treasury and credit departments of ATB. The management committees that oversee management of these risks are the Asset Liability Committee (or ALCO) and the Credit Committee. The Board oversight committee responsible is the Credit and Financial Risk Committee of the Board (CFRC).

Role of ALCO

ALCO is responsible for:

- Establishing the minimum and maximum rates of interest for all deposit and loan programs.
- Managing and monitoring interest rate risk.
- Approving terms, conditions and pricing of all loan and deposit programs as they relate to asset/liability management.
- Monitoring risk management for liquidity, short term investments, long term investments, foreign exchange deposit limits and derivatives.
- Approving the level of liquid assets held as collateral to secure potential advances from the Bank of Canada.

Role of Credit Committee

The management Credit Committee is responsible for the administration, monitoring and adjudication of all of ATB's lending programs and initiatives, and is charged with ensuring at all times that the highest standards are maintained regarding risk assessment, analysis and credit risk management.

Role of Board Committee

The Board's Credit and Financial Risk Committee is responsible for a number of things, including:

- Reviewing and recommending reasonable and prudent investment and lending policies, standards and procedures to avoid undue credit risk and potential loss and to obtain a reasonable return.
- Reviewing and recommending credit risk management policies for approval by the Board.
- Reviewing and recommending to the Board for approval policies related to risks surrounding asset liability management, liquidity, interest rate management, foreign exchange and the investment portfolio.
- Performing an annual review of the effectiveness and application of market risk management and liquidity risk management policies, standards and procedures.

6.5 Structure and senior management oversight of ATB's treasury department

Former CEO, and former Treasurer

The executives with management oversight responsibility for ATB's treasury department were the former CEO, and former Treasurer. The former CEO was Bob Normand until he retired in June 2007 and the former Treasurer was Craig Warnock, who left ATB in May 2008.

Structure of treasury department

ATB's treasury group is structured into three groups: core Treasury, Global Financial Markets (GFM), and Treasury Operations, Settlements and Control. The Credit department within ATB also contains a middle office that has responsibility for monitoring certain treasury activities. The credit department also approves credit limits for counterparties and reviews and recommends to the Board for approval the investment, derivative and credit policies of ATB.

Core treasury

- Core Treasury has responsibilities for liquidity and funding solutions, asset liability management and corporate derivatives.

GFM

- GFM has responsibility for investment management, foreign exchange trading, derivatives trading, and money market activity.

Operations, settlements and control

- Treasury Operations, Settlements and Control has responsibility for incoming and outgoing wire transfer activity and transaction support and reporting for treasury which includes investments, corporate derivatives and client derivatives.

The middle office

- The middle office within the credit department is responsible for monitoring treasury activities within ATB and valuing ATB's investments and derivatives.

Credit department

- The credit department is also responsible for reviewing credit applications for derivative and investment counterparties. This is a new initiative for investments starting in the summer 2008 while the reviews of credit applications for derivative counterparties started in 2006. Credit also reviews and makes recommendations for approval to the Board of Directors on the investment, derivative and credit policies.

6.6 Investments

Investments

ATB's investment portfolio consists of debt securities used for short term cash management purposes and deposits with other financial institutions. ATB manages its investment portfolio within its investment policy and the Prudent Person Guideline issued by Alberta Finance and Enterprise.

On March 31, 2008 the carrying value of the investment portfolio was $3.1 billion (March 31, 2007: $2.7 billion). The portfolio consists of commercial paper, debt securities and deposits with other financial institutions of:

- Deposits with other financial institutions $1.9 billion (2007: $1.0 billion)
- Paper issued or guaranteed by the Government of Canada $161 million (2007: $110 million)
- Third-party sponsored asset backed commercial paper $825 million net of the $253 million provision for losses on ABCP (2007: $1.2 billion)
- Bank-sponsored asset backed commercial paper $76 million (2007: $300 million)
- Corporate paper $182 million (2007: $1 million)
- Other investments $7 million (2007: $5 million)

6.7 Interest rate risk management

Interest rate risk management

ATB's objective for managing interest rate risk is to achieve stable earnings and value growth through active management of its asset and liability positions. In practice, this is achieved through interest rate hedging strategies designed to minimize the impact that changes in interest rates would have on net interest income and maintain the effects of changes in interest rates within a target limit of net income. Interest rate risk is modeled and monitored to allow management to make risk mitigation and product pricing decisions.

6.8 Derivatives

Derivatives

Derivatives are agreements or financial contracts whose values are derived from the value of an underlying primary index such as interest rates, exchange rates, commodities and equities. Alberta Treasury Branches Regulation establishes the derivative activities that ATB is allowed to engage in.

ATB's use of derivatives consists of two elements: corporate and non-corporate derivatives.

Corporate derivatives

- Corporate derivatives used for interest rate risk management consist generally of interest rate swaps to hedge interest rate risk and equity options to hedge the market risk related to index linked deposit products. Forward foreign exchange products are used to manage ATB's foreign exchange exposure.

Client derivatives

- Non-corporate derivatives exist under ATB's client derivative line of business. ATB sells derivative products (oil and natural gas forwards and options) to its clients and offsets the market risk of those products by purchasing an offsetting position with another financial institution.

Guideline exists

ATB strives to manage its derivative portfolio in accordance with the Alberta Finance and Enterprise Derivatives Best Practices Guideline. At March 31, 2008 the fair value and notional amounts of corporate derivatives was:

Derivatives at March 31, 2008

	Fair value of assets	Fair value of liabilities	Notional principal amounts
		($ in thousands)	
Interest rate contracts			
Options	$ 782	$ -	$ 131,080
Swaps	33,003	5,804	2,735,039
Foreign exchange contracts			
Forwards	195	179	19,992
Equity contracts			
Options	47,200	-	249,650

6.9 Liquidity

Liquidity risk

The *Alberta Treasury Branches Regulation* section 29 requires that ATB shall have and keep available unencumbered liquid assets in accordance with the guidelines whose primary objective is liquidity. The Minister of Finance and Enterprise issued a Liquidity guideline dated July 2004 that ATB must follow.

6.10 Foreign exchange

Foreign exchange activities

ATB's foreign exchange risk exposure is limited primarily to US dollars as ATB has cash, investments and loans denominated in US dollars which are offset by US dollar deposits of its customers.

Alberta's mental health service delivery system

1. Summary

The system faces serious challenges

The mental health service delivery system in Alberta faces serious challenges. Service to clients and patients can improve by making access to the system easier, reducing wait times for many programs and coordinating care better. Factors such as the stigma attached to mental illness, its chronic nature, and the transfer of responsibility for care delivery between service providers combine to keep mental health in the background. Mental health staff and administrators advocate a client focused system that balances care delivery between community, hospital, and institutional programs. The system we audited still focuses on hospital beds and clinics. Having said that, there is a foundation of service providers in Alberta working to improve service delivery.

Services should reflect *PMHP* principles

This report accepts the view that Alberta should transform its mental health service delivery system to reflect the principles[1] outlined in the *Provincial Mental Health Plan.* This is not a radical expectation. Mental health professionals have promoted these principles for decades. There is evidence that the new approach costs no more than the splintered, sometimes ineffective care now offered. Demographic changes, workforce shortages, and the development of innovative programs also affect how the system should be transformed.

Recommendations apply to AHS delivery model

Our report recommends ways to improve Alberta's mental health service delivery in accordance with the principles of the *Provincial Mental Health Plan.* While we examined only a selection of mental health services, our recommendations should apply to all mental health fields. And while we did our work in a regionalized service delivery environment, these recommendations will apply to whatever delivery model the new Alberta Health Services implements.

Three objectives for this work

In 1994 Alberta regionalized health service delivery. Directly or through contracts, the nine regional health authorities (RHAs) have delivered publicly funded mental health services since 2003. So it is not surprising that we examined nine different regional mental health service delivery systems. To structure our mental health audit, we developed audit objectives and criteria against which to assess the regional health authorities' systems. We set three objectives for this audit.

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[1] These principles include a focus on client recovery; a choice of treatment models; community-based services; the integration of services and supports; consideration of the social determinants of health (e.g. housing, income, etc.); evidence-based services.

RHAs cover the continuum of care, but with exceptions

Our first objective was to determine whether every region provides a functioning mental health continuum of care for its clients. This does not mean the same services in every location, but equitable service everywhere given geographic size and population differences. We conclude that all regions provide a mental health continuum, although in all cases with exceptions.

Summary of exceptions

The two big city RHAs[2] offer a complete range of mental health programs but experience higher demand for services than they can meet with their existing systems. In the two northern RHAs, there are significant service delivery issues based on the rapid growth of communities like Grande Prairie and Fort McMurray and the inability of the mental health programs to keep pace. There is a significant difference between services in the cities and those in smaller towns or rural areas. In every RHA we found long wait times for at least some services. Most RHA mental health divisions can improve coordination with their contracted not-for-profit service providers.

RHAs implementing *PMHP* principles, but unevenly

Our second objective was to determine whether RHAs are actively implementing the principles of the *Provincial Mental Health Plan*. We conclude that the RHAs are implementing those principles. They could do so faster and more consistently across the province.

Good practices identified

Our third objective was to identify good practices in mental health. As we traveled the province, we saw many examples of good practices, innovative initiatives, and dedicated employees. Every region has established a foundation for coordinated mental health care.

We make nine recommendations to improve Alberta's mental health service delivery in accordance with the principles of the *Provincial Mental Health Plan*. We categorize these recommendations into four themes.

Mental health standards required

The Ministry of Health and Wellness should develop standards for mental health services. Section 5.1 defines standards as the principles, practices, and examples to which the mental health system should conform and by which the system can be judged. Standards form a critical foundation for the mental health system.

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[2] The two big city RHAs are Capital (that includes Edmonton and surrounding centres) and Calgary. The term "medium-sized cities" refers to Medicine Hat, Lethbridge, Red Deer, Grande Prairie, and Fort McMurray.

Eliminate gaps in service

Alberta Health Services should eliminate the gaps in mental health service across the province. By gaps in service, we mean a program that either does not exist or has a long wait time. Poorly coordinated care also signifies a gap in services, resulting in clients not getting the care they need or even "falling between the cracks". Standards will define what services should be delivered by the publicly funded system. Alberta Health Services must deliver the programs to satisfy those standards.

Recommendations to eliminate gaps

Section 5.2 addresses the need to encourage mental health housing and provide supportive living[3] programs across the province. Section 5.3 deals with the important issue of treatment for people with concurrent disorders, those with a mental illness and an addiction issue. Section 5.4 encourages better relationships between RHAs and the not-for-profit organizations that deliver mental health services under contract. Section 5.5 deals with other gaps that we observed: mental health professionals at points of entry, coordinated intake, specialized programs, and transition management between hospital and community care.

Coordinate efforts to improve system efficiency

Alberta Health Services and mental health managers and workers can coordinate and manage mental health services better. Better coordination should lead to efficiency gains for the system. Section 5.6 discusses opportunities to coordinate mental health programs, procedures, and information systems across the province. Section 5.7 describes opportunities for managers and workers to improve their own community mental health practices immediately.

Greater accountability for mental health service delivery system

Last, there should be greater accountability for the mental health service delivery system. We view accountability in terms of a cycle, beginning with planning an activity, delivering it, monitoring operations, and regularly assessing the success of operations with a view to enhancing the service. Section 5.8 covers funding, planning, and reporting considerations that need to improve for the system to achieve the *Provincial Mental Health Plan*'s principles and be fully accountable. Section 5.9 deals with considering whether two existing implementation priorities of the *Plan* are appropriate.

Appendix A summarizes the results of our focus groups and surveys. We used these methods to gather feedback about mental health service delivery from clients, clients' families, physicians, and psychologists. Appendix B describes our audit approach, including the procedures we performed and the audit criteria we used.

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[3] In this report, "housing" means the physical location where the mental health client lives, whether it is his own home, a group home, or an approved home. "Supportive living" means the mental health services delivered to the client in his housing unit.

2. Background

RHAs deliver mental health care since 2003

Until the creation of RHAs in 1994, independent boards ran the hospitals. Until 2003, hospitals operated inpatient psychiatric units and outpatient clinics while the Alberta Mental Health Board (AMHB) or its predecessors ran community-based treatment programs as well as the specialized mental health facilities[4]. In 2003, the AMHB's programs devolved to the RHAs who then acquired the mandate to deliver integrated mental health care in the province.

PMHP and Kirby Report summarize principles for service delivery

In April 2004, the provincial government released the *Provincial Mental Health Plan for Alberta*[5]. The *Plan* established the principles for mental health policy and service delivery. The Kirby Report, entitled *Out of the Shadows At Last*[6] (May 2006; pp. 57 and 58), summarizes those principles: a focus on client recovery; a choice of treatment models; community-based services; the integration of services and supports; consideration of the social determinants of health (e.g. housing, income, etc.); evidence-based services.

As we complete our audit in August 2008, the Ministry of Health and Wellness is reorganizing health service delivery in Alberta. The nine RHAs will become one under Alberta Health Services. Support infrastructure such as funding and information technology development at the Department of Health and Wellness may change as well.

Auditor General's first phase of mental health work, April 08

We reported phase I of our mental health work in April 2008. Our work concluded that the central entities (the Department and the AMHB) "did not introduce strong systems to plan, monitor, and report the implementation priorities" of the *Provincial Mental Health Plan.* As a result, it is difficult for the Department and the AMHB (and especially for anyone outside the mental health system) "to determine whether the results we now observe are what were originally intended." We made two recommendations. The first was to strengthen the planning, monitoring, reporting, and adjusting systems to implement the *Plan.* The second was to ensure a sound accountability framework for mental health in Alberta, including for the *Plan* itself.

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[4] In this report, "facility" refers to the specialized mental health hospitals such as Alberta Hospital Edmonton, the Centennial Centre (formerly Alberta Hospital Ponoka), and the Claresholm Care Centre.

[5] http://www.amhb.ab.ca/Publications/reports/Pages/ProvincialMentalHealthPlan.aspx

[6] http://www.parl.gc.ca/39/1/parlbus/commbus/senate/com-e/soci-e/rep-e/rep02may06-e.htm

3. Mental health service delivery in Alberta

Recovery is the objective

Recovery is the objective of the mental health system. People with mental illness want to live a normal life within the constraints of their condition. They prefer to live in their own homes, hold jobs, and interact with society like other people. As mental illness is often chronic, a final cure may not be possible. The client may not recover totally and permanently so the mental health system should support him in living as best he can.

Continuum of care

Continuum defined; contains three aspects

Continuum of care is a key concept in mental health service delivery. The Canadian Council on Health Services Accreditation defines continuum of care as "an integrated and seamless system of settings, services, service providers and service levels to meet the needs of clients in defined populations". At a high level, we describe three aspects of Alberta's continuum of care.

First, RHA service delivery system

The first element is the publicly-funded RHA mental health service delivery system that is the subject of this audit. Services offered by this system should be evidence-based. This means that treatments, therapies, and practices should be endorsed by research based on scientific method. Evidence should be used to support decisions about how best to treat clients and patients. Broadly speaking, this system offers three types of services to its clients:

Services delivered to the client in the community

- Mental health services delivered in the community. In this case, the service goes to the client. In Alberta, the system delivers services (such as crisis intervention, assessment, and therapy) or supports (such as helping the client with job or home hunting, shopping, or socialization).

Services delivered in the community clinic

- Mental health services in a community clinic or outpatient setting. In this case, the client goes to the service.

Bed-based support for community services

- Bed-based support for community mental health services. These beds are located in hospitals and specialized mental health facilities. One hundred years ago, these beds were at the heart of the mental health system. Now, those beds are just as critical to the system. However given the focus on recovery, these beds should support clients when their illness requires intensive treatment. An admission to the psychiatric unit should promote recovery.

Example of Calgary's mental health areas and programs

In Alberta, the nine regional health authorities (RHAs) deliver these services. Each RHA organizes its services into areas and programs. As an example, the Calgary Health Region defines the following program areas:

- Prevention and promotion.
- Early intervention.

- Crisis intervention.
- Acute inpatient services.
- Basic treatment (focused core services). This program area includes Calgary's community mental health clinics.
- Specialized treatment.
- Rehabilitation.
- Sustain and support.

Within these program areas, Calgary defines about 50 adult mental health programs. RHA staff deliver some of these programs; organizations contracted by the RHA deliver the remainder. A variety of staff deliver these services; we divide them into three general categories:

- Mental health professionals, which includes therapists, social workers, nurses (some with psychiatric specialization), psychologists, and psychiatrists;
- Mental health workers, who are non-professionals often working in outreach programs;
- Support and administration.

Of course, Calgary provides a full range of programs. Smaller RHAs offer fewer programs but cover the three types of service, either by providing the services themselves or by arranging for services from other regions.

Second, services delivered by other providers

The second element in the continuum is the host of mental health and support services offered by providers other than the RHAs. In Alberta, those providers include:

- Physicians. Family and general practitioners provide the first point of contact and treatment for many mental health clients. Psychiatrists provide specialist services for the seriously ill.
- Not-for-profit organizations. Numerous local, regional, and national organizations like the Canadian Mental Health Association, the Schizophrenia Society, and the Centre for Suicide Prevention offer key services. In some cases these organizations contract with the RHAs to provide services.
- Other government departments, agencies, and entities. At the provincial and federal levels, many entities play a role. For example, police forces often respond to mental health crises, education systems often identify and accommodate students with a mental illness, and the housing ministry leads initiatives to provide low-cost homes.
- For-profit mental health services. Through private practitioners such as psychologists or privately funded organizations such as employee assistance programs, clients can access mental health services.

Third, coordination of services

The third element in the continuum is the coordination of these services. The *Provincial Mental Health Plan* talks about delivering the right service to the right client at the right place and time. Placing the mental health client in the best program on the continuum is critical to effective and efficient service. For example, when a mental health client arrives at the hospital emergency room the system should decide where best to place him. Diversion from the inpatient psychiatric unit to a more suitable treatment program serves the client and the system better than hospitalization or unsupported discharge to the community.

Hospital-based and community-based programs

The RHA mental health service delivery system is involved directly as provider or indirectly as funder for the following programs.

Hospital mental health services

The RHAs' hospitals provide:

- Emergency rooms, which for many clients is the first point of contact with the mental health system.
- Inpatient psychiatric units. Maintaining a patient on these units is expensive; daily rates per bed run from $500 to $1,500 per day across the province.
- Inpatient group programs. These typically assess and train patients for post-discharge life.
- Outpatient group programs. The client comes to the hospital to attend either general courses on self-esteem and assertiveness training or specialized programs such as early psychosis or eating disorders.

Mental health clinic services

The RHAs have established mental health clinics throughout their regions. In most cases the clinic is physically separate from a hospital, although David Thompson Health Region has moved many of its smaller community clinics into the local hospital. Clinics offer:

- Intake, assessment, and diagnosis of the client.
- Individual therapies. There are many ways to categorize this work. One is by frequency of visits to the therapist: single session, brief therapy (up to five visits), short term, or long term. Another way is by type of therapy: cognitive behavioural, hypnosis, or dialectic behavioural.
- Group therapies and activities.

Services delivered in the community

The RHAs can deliver mental health services to the client, rather than have the client come to the service. RHAs offer:

- Street outreach for the homeless.
- Mobile crisis response teams that go to people's homes.
- Assertive community treatment (ACT) where the RHA aggressively provides services to the most difficult-to-serve cases. These are clients who cannot succeed without ongoing and intensive support. Mental health

professionals provide this service; they ensure the client maintains their medication and help with general living requirements.

- Outreach services, which are less intensive than ACT, can be performed by less-qualified individuals than ACT. Outreach staff assist the client with appointments, paperwork, and day-to-day chores such as shopping or home maintenance.

Concurrent disorders

AADAC and RHAs share responsibility for concurrent disorders

People with concurrent disorders have a mental illness combined with an addiction problem. This is very common; study after study shows that roughly half of those with a mental illness have an addiction problem and vice versa. Alberta, unlike most provincial jurisdictions in Canada, separates the mental health and addictions mandates. The Alberta Alcohol and Drug Abuse Commission (AADAC), an Alberta government agency, has the lead in formulating concurrent disorder policy in the province.

Ideally, concurrent treatment should be simultaneous

The mental health problems of people with concurrent disorders often exacerbate their addiction problems, and vice versa. For example, a depressed person may take street drugs to combat his depression; these drugs ultimately make him more depressed. Mental health and addiction treatments should ideally take place simultaneously rather than sequentially.

Aboriginal mental health

Alberta has an *Aboriginal MH Framework*

Following from the *Provincial Mental Health Plan*, the Alberta Mental Health Board developed *Aboriginal Mental Health: A Framework for Alberta*[7]. This document contrasts traditional aboriginal medicine and healing with modern medical science and emphasizes a holistic approach to mental health. Other *Framework* initiatives include hiring aboriginal staff, offering cultural sensitivity training to non-aboriginal mental health workers, and working collaboratively with other service providers.

Suicide

Alberta has the *Suicide Prevention Strategy*

Suicide is a tragedy and a devastating scenario for surviving family and friends. From the *Provincial Mental Health Plan* flows *A Call to Action: the Alberta Suicide Prevention Strategy*[8]. It emphasizes prevention and promotion programs. RHAs can offer these programs in the community, to targeted groups, or on-line. RHAs also offer post-vention programs after traumatic incidents like suicide take place. When grief counsellors attend a disaster scenario, this is post-vention in action.

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[7] http://www.amhb.ab.ca/Initiatives/aboriginal/Documents/Aboriginal_%20%20Framework.pdf

[8] http://www.amhb.ab.ca/Initiatives/suicidePrevention/Documents/A%20call%20to%20action.pdf

Housing and supportive living programs

Many housing options

Mental health clients may need out-of-hospital housing. RHAs rely on not-for-profit organizations, municipalities, and for-profit owners to develop and maintain housing units. Mental health services for residents of these housing units are usually provided by the RHA or not-for-profit organizations.

- Crisis beds house a client short-term (usually no more than five days) until he gets over the crisis. These are not hospital beds but do offer 24 hour, seven days a week oversight.
- Transition beds serve clients who have stabilized in hospital but need temporary help before returning to independent living.
- Group homes offer long-term housing. Seriously and chronically ill clients can live in these placements for years. Broadly speaking, group homes offer either 24 hour, seven days a week care or a more limited shift of care (for example, four or eight hours per day).
- Approved homes are private homes that take in a client. Typically, these clients get little to-the-door service and visit the clinic or hospital for treatment.
- For clients seeking independent accommodations, either individual or shared, the RHA may assist with the search, arrange for supports (e.g. financial assistance), or provide supportive living services such as outreach or ACT programs.

RHAs involved in housing in four ways

RHAs participate in the housing and supportive living component by encouraging the development of mental health beds, placing their clients in these settings, partially funding the organizations that operate these homes, or offering supportive living services in-home to the residents.

Organizational structure

Mental health divisions vary in size across Alberta

Mental Health is a sizeable division[9] within each RHA. RHA mental health expenditures range between $5 million and $240 million; in total, expenditures are about $475 million per year. This represents between about 2.5% to 9.7% of RHAs' operating budgets. RHAs always operated their hospital-based mental health services. On devolution of services from the Alberta Mental Health Board to the RHAs in 2003, the RHAs acquired a significant community-based service component plus the operation of the specialized facilities.

Some RHAs have as few as 60 full-time equivalent staff in their mental health divisions, while the big city mental health divisions have as many as 1,500 full-time equivalents each. The small RHA mental health divisions put their resources into front line staff; they can afford few managers, supervisors, and support staff. As a rule, the larger the RHA, the greater the specialization in sub-divisions and programs. Larger urban regions also have a deeper hierarchy of directors, managers, and support functions.

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[9] We will use the term "division" consistently in this document; in practice, each RHA uses its own terminology.

Information systems

Paper files contain details on treatment

All RHAs keep extensive records about their clients and patients. They are a medical necessity and a professional requirement. Both hospitals and clinics maintain extensive paper files. While electronic systems capture more and more information, the majority of detailed treatment information still resides in paper form.

Hospital electronic information systems

All hospitals and mental health clinics use electronic information systems. In hospitals, the systems are primarily designed for medical as opposed to mental health patients, but psychiatric units anticipate the introduction of mental health-specific modules for their computerized information systems in the next few years. Some hospitals also use a second computerized information system to collect and analyze bed utilization data.

Clinic electronic information systems

The computerized information systems used in the clinics are custom-built for mental health. The most common system is ARMHIS, a legacy system originally developed by the AMHB. In all cases but Lethbridge, the clinic's information system is different from the hospital's.

4. Audit conclusions

We have concluded against the three audit objectives.

Objective 1

Continuum of care should exist in each region

All regions should provide a functioning mental health continuum of care for their clients. In particular, every RHA should deliver services in the community, services in clinics, and bed-based support. The same continuum need not exist in every RHA. RHAs select from a variety of programs to construct their service delivery model. For example, small RHAs cannot offer specialized programs and not every hospital can have a psychiatric unit. In these cases, the RHA arranges access to these services from larger centres.

RHAs cover the continuum, but all have exceptions

All RHAs have a mental health system that offers the three types of service and coordinates to some degree with other service providers. We conclude each region offers a continuum of care, although in all cases with exceptions.

Summary of exceptions

Broadly speaking, smaller RHAs have gaps in their services, especially in delivering services in the community. The two big city RHAs offer a full array of services but experience higher demand than they can meet with their existing systems. The two northern RHAs[10] experience significant service delivery challenges based on the rapid growth of communities and the inability of the mental health programs to keep pace. There is a significant difference between services in the cities and those in smaller towns or rural areas. In every RHA we found long wait times for at least some services. Most RHA mental health divisions can improve coordination with their contracted not-for-profit service delivery organizations.

Objective 2

The principles of the *Provincial Mental Health Plan*

The RHAs should be actively implementing the principles of mental health care expressed in the *Provincial Mental Health Plan*. The *Plan* does not specifically state those principles in one place but they are clear to those familiar with the document and with the evolution of mental health services in recent decades.

RHA mental health staff, especially at the management level, are familiar with the *Provincial Mental Health Plan* and acquainted with its principles.

Uneven pursuit of PMHP principles

We conclude that RHAs are pursuing those *Provincial Mental Health Plan* principles, although unevenly. For example, RHAs are at different points in delivering *Plan* initiatives such as filling service gaps, providing housing needs, and developing aboriginal programs. Our focus groups confirm that most service users did not notice a significant change in service delivery since the *Plan* was released in 2004. In the last four years many RHAs have filled gaps in their programs, but they have not transformed their mental health service delivery to conform with the *Provincial Mental Health Plan*'s vision. Regional executives and managers will need to be bolder in their planning and execution to transform their mental health service delivery.

Objective 3

Examples of good practices found

We thought we should be able to identify examples of good practice in every RHA that we visited, and we did. Not every good practice can be replicated through the province, nor is every good practice we highlight unique to a particular RHA. But RHAs have recognized opportunities, implemented solutions, and benefitted from the improvement. We have included examples throughout our report.

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[10] Northern Lights Health Region contains Fort McMurray; Peace Country Health includes Grande Prairie.

5. Recommendations

5.1 Mental health standards

Recommendation No. 16

We recommend that the Department of Health and Wellness and Alberta Health Services create provincial standards for mental health services in Alberta.

Background

Definition of standards

Standards are the principles, practices, and examples to which the mental health system should conform and by which the system can be judged. Standards promote consistent and adequate levels of care while clarifying expectations for clients, stakeholders, and providers.

Other jurisdictions have mental health standards

Standards for mental health care are not uncommon. For example, jurisdictions such as England and Australia have mental health standards; in Canada, Nova Scotia has mental health standards.

Standards include guiding principles

Standards typically contain a statement of the importance of mental health. They go on to cover the guiding principles for the discipline. In mental health, standards often endorse concepts such as client focus, client choice, accountability, and more. The *Provincial Mental Health Plan* has already endorsed many of these principles.

Standards define service areas

Standards usually organize mental health services into areas or issues. The British areas include mental health promotion, primary care, access to services, and others; they cover the continuum of care. Areas and issues begin at a general level, but they break down into detailed expectations. The Australian model calls the details "criteria". Here is an Australian example:

- Standard 11 is "Delivery of Care".
- Standard 11.4 is "Treatment and Support". There are 13 criteria under this standard.
- Criterion 11.4.9 says, "There is a current individual care plan for each consumer, which is constructed and regularly reviewed with the consumer and, with the consumer's informed consent, their carers and is available to them."
- There are "Notes and Examples" under 11.4.9 to clarify further.

Standards support accountability

Standards usually contain a section on accountability, performance measures, and reporting against the standards.

Our audit findings

No mental health standards to ensure consistency in Alberta

There are no adult mental health standards in Alberta. The *Provincial Mental Health Plan* endorses many of the principles that standards would address but the *Plan* is not a set of standards. The standards should ensure that all regions of the province receive adequate mental health care. We were told in our Phase I work that the second iteration of the *Plan* might contain an initiative to create mental health standards.

Two types of standards: policy/outcomes and operational

Two organizations need to coordinate Alberta's standard setting. The Department of Health and Wellness is responsible for standards that touch on policy and expected outcomes. For example, recommendation No. 17 deals with housing, where the Department would need to set the policy standard and define outcomes for the service. On the other hand, Alberta Health Services is responsible for operational standards. Section 5.7 deals with operational matters that should be covered by a standard developed by AHS.

During our work we identified many cases where individual RHAs held different views of their mandates. Three examples demonstrate how standards will add clarity and consistency to the system.

Standards should define system's clientele

Standards should define who the system's clients are, who will be served by the publicly funded system. There are many mental illnesses and many levels of severity. Many mental health workers, managers, and executives believe the RHA system should focus on the serious and persistent cases. Other mental health resources in both the public and private health care systems could deal with less serious cases. Standards should address this issue.

RHAs not consistent in addressing the housing issue

Both the Kirby Report and the *Provincial Mental Health Plan* advocate that the publicly funded mental health system be involved in providing the determinants of health to clients. Housing is a key determinant in the recovery of mental health clients. However, we observed a wide variation in how involved the nine RHAs felt they should be. The David Thompson Health Region has taken a progressive stance by assigning a manager to this area and actively promoting housing solutions in the region. However regions such as East Central have no formal systems to act on behalf of its clients. Provincial standards should define the expectation in this critical matter.

Standards should address accountability

Standards usually address the issue of accountability. In section 5.8 we discuss how accountability for the mental health system can improve, but provincial standards should define the expectation for and even some of the mechanics of accountability.

Implications and risks if recommendation not implemented

Without expectations defined in standards, the mental health system may deliver an inequitable level of services across the province. Without standards to establish a foundation, the mental health service delivery system will not achieve accountability for its activities and outcomes.

5.2 Housing and supportive living

Recommendation No. 17

We recommend that Alberta Health Services encourage mental health housing development and provide supportive living programs so mental health clients can recover in the community.

Background

Housing strongly influences recovery

Overwhelmingly, people with a mental illness want to live at home in the community. One of the strongest positive influences on their recovery is safe, secure, affordable housing. However, a severe bout of mental illness may cause these people to lose their housing. When this happens not only will quality of life deteriorate, but they may begin a cycle of crises leading to repeated hospital visits.

Hospitals are an expensive way to house clients

Mental health literature recognizes that keeping patients in hospitals beyond the period required to stabilize them can be counter-productive. Patients can become reliant on hospital routine and recovery may be slowed or reversed. Lack of adequate housing for the stabilized patient contributes heavily to hospital stays that are longer than necessary. Hospitals are an expensive place to house clients; in Alberta, inpatient beds in psychiatric units cost between $500 and $1,500 per day. It can be economically beneficial to find patients appropriate housing in the community.

Alberta government housing partners

As the *Provincial Mental Health Plan* notes, housing for people with a mental illness is an inter-ministerial priority. In Alberta, much of the bricks-and-mortar housing mandate belongs to the Ministries of:

- Housing and Urban Affairs who provide capital funding for low income housing;
- Seniors and Community Supports who also provide capital funding and inspect certain types of group homes.

System needs to support clients in the community

De-institutionalization has been the goal of the mental health care system for decades. The development of medications in the 1950s empowered the system to release patients into the community. These patients are not necessarily cured; they are stable but need support. To succeed with de-institutionalization, the mental health system needs to deliver services in the community to keep the clients well and intercede when things go poorly. Supportive living programs such as outreach and assertive community treatment (ACT) address the in-home needs of severely ill clients.

Our audit findings

Shortage of safe, affordable mental health housing units

RHAs have a shortage of safe, affordable housing for people with a mental illness. The RHAs do not systematically track the number of their mental health clients who need housing placements across the province. However both big cities and smaller centres feel the housing pressure. For example when we visited Camrose, 32 residents of an inner city hotel, most of whom were mental health clients, were about to lose their housing. For a city of 17,000, this would be a mental health housing crisis. In Calgary, mental health managers estimate that at least 1,500 people with mental illnesses need adequate housing.

Issues with supportive housing

Most RHAs provide limited support for mental health housing in their regions. The major issues include:

Lack of mandate

- The lack of a clear and consistent mandate, as we mentioned in our first recommendation.

Limited supply and demand information

- A limited understanding of supply and demand for mental health housing. We expected RHAs to calculate the demand for their own clients and determine supply through contacts with their partners and other service providers. However RHAs do not have systems to calculate these factors or the shortfall for housing in their region.

Limited systems to encourage developers

- Limited systems to encourage the development of mental health housing. Individual mental health workers may take the initiative to assist their clients and RHA staff sit on low-income housing committees in their communities. Otherwise client housing is the responsibility of the client, his family, or other social support organizations. Service users voiced this frustration during our focus groups.

Mental health housing wrapped into larger housing initiatives

- In the cities, mental health housing being subsumed by other housing initiatives. For example, the mental health division often participates in broad housing initiatives such as eliminating homelessness or providing low-cost housing to low-income families and individuals. People with a mental illness are a subset of the homeless or the low-income, so participation by the divisions is understandable. However, mental health divisions cannot expect these broader initiatives to address the needs of their clients. The divisions themselves should act directly on their clients' behalf.

Limited monitoring of clients' housing

- Limited monitoring of housing. RHAs vary in ensuring their clients' housing is safe, secure, and provides adequate services to residents. Most RHAs limit their involvement to informal monitoring when mental health staff visit clients. Some RHAs do not formally inspect housing units when they renew contracts with their operators.

Psychiatric inpatients remain on the unit because they have no housing

Inadequate housing affects the quality of life for clients, but it also impacts the RHA. A severely ill client with housing issues requires more frequent and more prolonged visits to hospital psychiatric units. Many long-stay patients remain in hospital because they have no acceptable housing option on release. For example, at the time of our audit visit in Calgary an inpatient marked his second anniversary on one of the city's psychiatric units. We also saw stays of more than a year in Edmonton psychiatric units.

Shortfalls in supportive living programs

The shortfall of outreach and assertive community treatment programs affects the RHAs' capacity to encourage the development of mental health housing. Developers and housing partners told us they could provide low-cost housing units if someone would support the residents' mental health needs. Unfortunately many RHAs cannot make that commitment so the housing units go to other residents.

RHAs can act

RHAs do not buy, build, or lease housing spaces and we do not advocate they do. However, RHAs that proactively promote housing initiatives in the community and deliver supportive living programs improve their clients' quality of life. They also manage costs by providing structured services rather than relying on unplanned interventions. We recognize the Department of Health and Wellness plays a role by promoting mental health concerns on cross-ministry housing initiatives. But to address the housing gap effectively and immediately, Alberta Health Services (AHS) should act in each region.

Gaps in outreach and ACT programs

All RHAs offer outreach services but only five offer ACT. Even where programs exist, there can be wait lists for the service. For example, Calgary's ACT program has 45 people waiting for the service. Clients with severe illnesses populate these programs and without at-home services run the risk of multiple hospital visits. Literature suggests outreach and ACT programs can be as expensive as cyclical hospitalizations, but evidence-based review also shows a better quality of life for the client. Our focus groups confirmed their appreciation for this form of treatment.

Cost-effective services to clients in-home

Kentwood House in Red Deer provides 24 hour, seven days a week care for 25 clients. A private party owns Kentwood; the RHA provides services to the residents. The RHA's cost to maintain clients at Kentwood is no greater than to house them at the Centennial Centre where many of them came from. Kentwood and other David Thompson supportive living programs demonstrate that an RHA's commitment to in-home support encourages partners to invest in developing housing projects.

AHS can encourage development of housing units

AHS can encourage the development of housing for people with a mental illness. There is a need for a range of housing, from group homes to shared accommodations to individual apartments. Not-for-profit organizations develop many of these housing opportunities. For example, the Canadian Mental Health Association (CMHA) provides housing in many Alberta cities. But AHS can also encourage private developers who have never considered the mental health housing market as an option for their development.

AHS can fund operating costs

AHS can fund not-for-profit housing providers for a portion of their operating costs. Currently many RHAs contract with the CMHA to fund at least some of the cost to support clients. For example, Peace Country Health funds the CMHA for providing services in a 72 bed unit in Grande Prairie. As the CMHA and other not-for-profit organizations use volunteers to keep costs down, the RHA receives good return for its funding.

AHS can help clients find housing

AHS can help clients locate suitable housing by coordinating with partners. For example, Lethbridge operates a placement committee that includes housing providers such as the CMHA and the Southern Alberta Self-Help Association. Working with this committee, the RHA arranges housing, often achieving its goal to mix mental health clients in housing situations with people who do not have a mental illness.

AHS can monitor safety and security

AHS can also monitor the safety and security of the housing units in which its clients live. One RHA has tailored the newest Department of Seniors and Community Supports housing standards to mental health housing situations and is considering how to apply them.

Good practice

The David Thompson Health Region (DTHR) assigned a manager to develop housing alternatives. He seeks partners who provide the bricks and mortar. To cover capital costs, the developers can access Alberta government grants from Seniors and Community Supports. DTHR sometimes provides funding for operations at these houses or its own staff to look after residents. They have had success moving 30-year residents of Centennial Centre and other long-term patients into less expensive, non-institutional group homes and bachelor suite residences. DTHR eliminated its wait lists for all accommodation types except chronic clients requiring 24 hour, seven days a week care.

Implications and risks if recommendation not implemented

Without housing and supportive living programs in place, the quality of life for mental health clients may deteriorate. They may experience more frequent crises as well as more frequent and longer visits to the hospital. The RHA's hospital-based services may be consumed by clients who could remain in the community with adequate housing and supportive living.

5.3 Clients with concurrent disorders

Recommendation No. 18

We recommend that Alberta Health Services strengthen integrated treatment for clients with severe concurrent disorders (mental health issues combined with addiction issues).

Background

The *Provincial Mental Health Plan* assigns the lead for concurrent disorders to the Alberta Alcohol and Drug Abuse Commission (AADAC). We did not audit AADAC in this engagement.

Concurrent disorders are well documented in the western world. Roughly half the mental health clients will have an addiction issue. At the same time, roughly half the addiction clients who seek assistance will have a mental health problem.

Our audit findings

Examples of shared initiatives

During our audit, we saw examples of initiatives between AADAC and the RHAs' mental health services. For example, in Lethbridge AADAC co-leads group outpatient programs and in eight RHAs offers some level of shared training in addictions. As well, AADAC and the RHAs have developed memos of understanding to share client information, when the client authorizes the sharing. However this recommendation focuses on integrated treatment for individual clients.

Most concurrent cases handled by an individual therapist or counsellor

In the past, an addiction problem often excluded a client from receiving mental health services. The mental health service provider would not treat the client until the addiction was under control. At the same time, untreated mental illness was an exclusion for addictions treatment. So in the past, clients with concurrent disorders could fall between the cracks. This is not the situation any more. The reality now is that the therapist (whether AADAC or mental health) has to deal with both the mental health and addiction problems at one time, as best they can. This is part of the reason that Calgary renamed its branch Mental Health and Addictions. It recognizes a daily reality.

Some severe clients require integrated care

However, some proportion of clients with concurrent disorders will have serious enough mental health issues combined with serious enough addiction problems to require integrated care. These clients should see both an addictions counsellor and a mental health therapist at the same time.[11] Each provider possesses a skill set necessary for this type of client and the two should confer on the case regularly.

Little evidence that integrated care takes place

In our file reviews, we specifically looked for cases of integrated care. While we did not exclusively sample clients and patients with concurrent disorders, given their prevalence there should have been some. We found very little beyond a note in the file that read, "Referred to AADAC". There was no indication that the referral had been made or whether the client attended AADAC. We enquired of the mental health staff and in most RHAs they told us there was effectively no integrated care for clients with concurrent disorders. While we only audited the RHA side in this audit, if one of the partners does not participate, integrated care cannot be happening.

Good practice

In Lethbridge, Medicine Hat, and Camrose, we learned that integrated concurrent care can happen. The general rule seems to be that integrated care develops where mental health services and AADAC are co-located. In these three cities, the respective offices are either side-by-side in the Provincial Building or just around the corner from each other. Therapists can walk their clients to the AADAC counsellor and vice versa. Where physical distance separates the services, integration rarely happens.

Implications and risks if recommendation not implemented

Without integrated care, clients with serious concurrent disorders may not receive the treatment needed to recover.

5.4 Relationships with not-for-profit organizations

Recommendation

We recommend that Alberta Health Services improve relationships with not-for-profit organizations to provide better coordinated service delivery.

Background

RHAs rely heavily on not-for-profit services

Mental health service delivery relies heavily on not-for-profit organizations that receive RHA funding. In various regions, the not-for-profits provide:

- Hospital services, therapy in clinics, and crisis services;
- Services related to the determinants of mental health such as housing, supportive living, and clubhouses;

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[11] In most cases, this means an RHA mental health therapist and an AADAC counselor. Calgary has established its own Addictions Centre and can provide both skill sets to clients in the program.

- Advocacy on behalf of people with a mental illness.

Our audit findings

Not-for-profits uncomfortable with RHA outlook

In interviews, not-for-profit mental health service providers consistently expressed two concerns with their relationships with the RHAs. First, over time RHAs expect more and more services from the not-for-profits while maintaining funding at historic levels. These expectations include more detailed planning and reporting of activities and results to satisfy government-style accountability. Second, not-for-profits feel the RHAs treat them as contractors rather than partners and do not respect their contribution to the continuum of care for clients.

RHAs need to ensure cost-effectiveness of services

From the RHA point-of-view, not-for-profits that work under contract receive public money and need to be as accountable as the RHA itself. Given the contractual and funding relationships in place, the RHAs feel they need to ensure quality outcomes for outsourced services.

AHS needs to reconcile these positions

These two positions can and should be reconciled. The province cannot deliver the continuum of care for mental health clients without not-for-profit organizations. As well, the RHAs get good value-for-money due to the volunteer element in not-for-profits. The not-for-profits need to understand the financial and accountability responsibilities of the RHAs. Alberta Health Services should be proactive in improving these relationships. Following are examples of how relationship issues can affect mental health services.

Peace Country Health

Housing issues in Grande Prairie

In Grande Prairie, the Canadian Mental Health Association (CMHA) operates the majority of mental health housing units in the city. Although about 70 people live in the CMHA housing and most have a mental health problem, none are clients of the RHA's mental health services. The manager of the CMHA did not speak to the RHA for years until personnel changes introduced new managers on both sides. The annual contract between the two parties has not been signed for two years.

Suicide prevention programs

The Suicide Prevention Resource Centre (SPRC) developed the "Men at Risk" program, now used in several regions of the province. However, relations between this Grande Prairie not-for-profit and the RHA are distant. When we interviewed SPRC staff, they did not have a clear view who is responsible for suicide programs within the RHA. The two parties had not signed a contract for two years although the RHA still funds SPRC and the not-for-profit provides annual reports to the RHA.

Private hospitals in the East Central Health Region

Private hospitals in East Central

The East Central Health Region contracts with St. Mary's Hospital in Camrose plus other Catholic hospitals in that region to provide hospital services. Independent not-for-profit boards run these hospitals. St. Mary's has the only psychiatric unit in the region. Yet the relationship between St. Mary's and East Central has not been strong. For years a barrier existed between St. Mary's and the RHA's mental health program. This meant that mental health services were not integrated in a seamless continuum of care. For example, the parties did not readily share information about particular mental health patients or programs. Both parties tell us that this situation has improved in recent years but better coordination and cooperation are possible.

Good practice

In Lethbridge, not-for-profits congratulated the RHA on their relationship building. The RHA works cooperatively with the not-for-profits to provide services such as crisis line, crisis intervention teams, housing, and outreach services. We already outlined the work in housing in the David Thompson Health Region.

Implications and risks if recommendation not implemented

Without good relations and clear expectations between RHAs and not-for-profit service providers, continuum of care for mental health clients is at risk. Without contracting and reporting systems in place, neither the RHAs nor the not-for-profit organizations will be fully accountable for their contribution to the provincially funded mental health system.

5.5 Opportunities to reduce gaps in service

Recommendation No. 19

We recommend that Alberta Health Services reduce gaps in mental health delivery services by enhancing:

- **Mental health professionals at points of entry to the system;**
- **Coordinated intake;**
- **Specialized programs in medium-sized cities;**
- **Transition management between hospital and community care.**

Background

Gaps include "no program" and "no access to program"

The *Provincial Mental Health Plan* discusses gaps in mental health service capacity in terms of both range of choices and timely access to programs. For the client, there is little difference between no program and a program that has no room for him.

First triage of client critical to system effectiveness

It is important to have mental health expertise when a client first presents himself to the mental health system. The first triage[12] needs to make the right diagnosis. As well the mental health professional needs to know the programs available in the community to which he can refer the client. Otherwise the system cannot promptly refer the client to the appropriate service.

Chronic, severe clients need case management

Historically a major issue in mental health care delivery has been integrating services between the hospitals and the community. Too often a person with a mental illness does not seek help until he has a crisis and ends up in the hospital emergency room. When stabilized and leaving hospital, he has no services to help him return to the community. Because mental illness is chronic, the cycle starts again. For severely effected clients, service providers apply intensive case management to break the cycle.

Our audit findings

Mental health professionals at points of entry

Three frequent points of entry to the mental health system are telephone crisis lines, emergency rooms in hospitals, and general practitioners in the community.

Telephone crisis line issues

The emergency phone numbers in the *Yellow Pages* often provide several choices for mental health crisis services. Edmonton's *Yellow Pages*, for instance, present at least four choices. Not-for-profit organizations operate most crisis telephone services and often staff them with volunteers with limited mental health expertise. Few phone-in services across the province are 24 hour services. Many crisis lines are not coordinated with the RHA's mental health programs in the region.

Earlier centralized initiative failed for many RHAs

There was an earlier initiative to use Health Link as the sole mental health crisis line for Alberta. RHAs told us the central number did not work for them. The people fielding calls could give little information on services in communities outside their own. As a result, many RHAs abandoned the central telephone service.

Telephone crisis line opportunities

However, Medicine Hat relies exclusively on the Calgary Health Link. Although geographically distant, Health Link staff can reference care management plans for Medicine Hat clients. These plans state who should be consulted for this client in defined situations. Currently there are province-wide phone numbers for emergencies (911), telephone information (411), and non-emergency Alberta government services (211). Similarly there could be a mental health crisis line with a province-wide number that refers callers to local mental health resources.

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[12] Triage means determining (at a preliminary stage) the nature and severity of the client's problem and the most appropriate program for his treatment.

Not all RHAs have crisis teams

Larger communities are more likely to have a mobile crisis team. For example, Capital delivers a joint police-mental health crisis team as one element of its mobile crisis services. However, even smaller RHAs need some alternative to an after-hours voice message on the crisis line that directs clients to the hospital emergency room. In smaller communities, the crisis team need not respond to clients' residences. David Thompson found that changing from a mobile crisis team to a crisis team that responds only to emergency rooms allowed them to see more clients with the same resources.

Not all RHAs have mental health professionals in hospitals

Not all RHAs have placed mental health professionals in the hospitals. For example, Peace River recently discontinued its mental health liaison position due to staffing demands in other parts of its service. At the Taber hospital in the Chinook region, the hospital and clinic staff have little contact with each other, limiting mental health expertise in that small hospital.

RHAs can place mental health professionals in hospitals

Psychiatric units can respond to mental health referrals from other units in their hospitals. The exception is emergency room referrals due to the high volume of psychiatric visits. City mental health divisions place mental health professionals in hospital emergency rooms; for example, in Calgary they call it Emergency Mental Health. In hospitals that do not have a psychiatric unit, RHAs have created the mental health liaison role. In this case the community program stations a therapist in the hospital for consultation by emergency or any other unit with a mental health patient. These models place mental health professionals at first point of contact in hospitals.

GPs can access mental health professionals

General practitioners frequently field the first visit from a person with a mental illness. For severe mental health cases, both the general practitioner and the patient could benefit from mental health expertise early in the process. RHAs participate in two programs intended to match mental health professionals with the practitioner. First, primary care networks[13] can use their public funding to hire mental health staff. Practitioners in networks can access their mental health staff to improve care for their patient. Second, physicians enrolled in shared care[14] arrangements can have RHA mental health staff join them in the physician's office to deal with psychiatric cases.

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[13] Primary care networks (PCNs) are groups of physicians within a geographic region or community who work with their RHA to provide a defined range of primary services. One element of the PCN's agreement with the RHA could include mental health services. Each PCN receives public money to build capacity for the services it contracts to deliver.

GPs still seek support for mental health cases

We did not audit these initiatives but did learn that both initiatives are relatively new. RHA mental health staff tell us that physicians have begun to make use of these options. Our survey of physicians showed that about 45% of physicians wanted a closer working relationship with RHA outpatient and community treatment programs. About half would like closer relationships with psychiatrists, psychologists, and social workers. This suggests that practitioners believe mental health coordination and support can improve.

Coordinated intake

Clients need help to navigate the mental health system

The *Provincial Mental Health Plan* advocates choice for clients and efficiency for the service provider. Our focus groups identified access to mental health services as a significant issue. Regularly, service providers could not direct clients to "the right treatment, at the right place at the right time". This leads to a slow, frustrating, and often ineffective search for services by clients and their families. The health care system also feels the strain as clients unable to access mental health services often end up in the hospital emergency room. Even at the ER, clients may not receive accurate advice on available programs.

Centralized access in cities

In cities, centralized access facilitates placement within the system. The larger the city, the more mental health programs the RHA will offer. The client or family member seeking service cannot penetrate the system by themselves, nor make the best choices. With centralized access, the client meets a mental health professional when he contacts the RHA, gets triaged immediately, and is referred to the best program. Some RHAs have implemented this process already. For example, Grande Prairie reconfigured their intake so that access team members reside both in the hospital and at the clinic. Calgary has centralized access for 14 of its adult mental health programs and plans to expand that coverage.

Mental health liaison in smaller centres

Smaller centres have had success placing community mental health liaison workers in hospitals, even in hospitals without an inpatient psychiatric unit. Mental health liaison workers help hospital staff decide whether the client is best served in a hospital or community program. There is also a cross-training element to liaison because few hospital staff have specific mental health training.

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[14] Shared care is a collaborative arrangement between primary care providers (physicians) and mental health professional (psychiatrists, psychologists and nurses) to improve the mental health care of the physician's patients. For a description of the program, see: http://www.health.alberta.ca/key/phc_shared-mental-health.html.

Specialized programs in medium-sized cities

Demand for special services in medium-sized cities

All RHAs have mental health clients in need of concurrent, early psychosis, and other specialized programs. These clients must now travel for treatment. However, specialized programs often have long wait lists. For example, the eating disorder program in Calgary has about a 20 week wait and the concurrent program in Ponoka's Centennial Centre has about a 24 week wait. In addition, travel and living costs deter clients from making the trip.

Expanding special programs

Alberta's medium-sized cities are growing while specialized programs are under pressure. Rolling out specialized programs in medium-sized cities could provide timelier service for clients and reduce pressure on existing programs. The medium-sized cities do not have the resources to offer these programs themselves now even though they have demand. New programs would require new resources so as not to diminish existing programs.

Transition management between hospital and community care

Transition key to recovery

Chronic mental health clients move from program to program as their situation evolves. Managing the transition between programs requires care planning and case management. Our focus groups told us that lack of transition coordination was a major challenge to their recovery. No matter how successful their hospital care, many patients need assistance with their recovery when they leave the hospital. For example, research shows that patients are at increased risk shortly after release from the psychiatric unit[15]. Because of uncertainty when patients will be released from hospital, community services may find it difficult to pick them up on short notice. The community program may have a waiting list anyway.

Discharge planning at the hospital

Discharge planning by hospital staff is one aspect of successful transition. One social worker at the Foothills Hospital in Calgary did a particularly strong job, bringing the patient's family into hospital for meetings with the treatment team and arranging housing, income support, and other determinants for a successful life. Community mental health workers can visit their clients in hospital; for new clients, workers can enrol them in the proper program and begin to establish a relationship. Our file testing in hospitals showed this rarely happened.

RHAs create programs to address transition issues

RHAs can build programs specifically to address transition. In Calgary, the Community Extension Team supports clients until they can enrol in a program like Adult Short Term therapy. Smaller cities have had success with single-session walk in for clients awaiting enrolment. In small towns with limited programs and capacity, mental health workers need to manage transition clients on a one-to-one basis.

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[15] See later description on p. 191 for the study done by Calgary Health that led to the pilot "Seven Day Follow Up" program.

Community programs can estimate demand

The community programs may not know exactly when clients will appear but they can determine how much of their service is required over a period of time. With that understanding, they can build program capacity to accept the flow-through.

Good practice

Medicine Hat has created care management plans for about 25 clients who regularly access their services, especially their hospital service. The client, his family and general practitioner, the hospital, and the crisis line get a copy of the plan. All parties are prepared for the client whether he is stable or in crisis. For example, if the client or a family member senses a crisis, they can call the crisis line who will take pre-planned action to minimize adverse effects.

Implications and risks if recommendation not implemented

Without a centralized crisis telephone line, there is a proliferation of phone numbers that may not be connected to RHA mental health services. As a result, clients may not reach appropriate services. Without mental health professionals at points of contact, coordinated intake, and effective transition processes, it is difficult to integrate and optimize mental health services. Opportunities to cross-train health staff may be lost. Clients' recovery may be compromised by inappropriate, untimely, or uncoordinated placements. In a worst case scenario, clients may fall through the cracks and not receive treatment. Improper placements are a frustration for clients.

Without an increase in specialized programs, clients must endure long wait times and travel concerns. As well, more locations reduce the pressure on existing programs.

5.6 Provincial coordination

Recommendation

We recommend that Alberta Health Services coordinate mental health service delivery across the province better by:

- **Strengthening inter-regional coordination.**
- **Implementing standard information systems and data sets for mental health.**
- **Implementing common operating procedures.**
- **Collecting and analyzing data for evidence-based evaluation of mental health programs.**

Background

Department and AMHB responsibilities

There are mechanisms to manage (as opposed to deliver) mental health services across Alberta. The Department of Health and Wellness maintains the policy framework and monitors outcomes. The AMHB provides policy input, collects and assesses strategic data, and facilitates certain provincial initiatives.

Mental Health Networks

The RHAs themselves participate on Mental Health Networks. Senior personnel meet regularly on the provincial Network; representatives from AADAC, the Department, and major not-for-profit organizations also attend. The three southern RHAs have formed their own Southern Alberta Mental Health Network.

Agreement on central mental health data collection

There is province-wide agreement on the definition of inpatient and community mental health information records. The Department of Health leads this initiative and will eventually collect the data from the RHAs and maintain the information system. The RHAs have not begun to send the data yet, nor is there a system to accept it.

Evidence-based treatments and programs

"Evidence-based" means having data from scientific research to prove that treatments and programs actually improve clients' lives. This concept relates to program evaluation, cost considerations, and comparative efficiencies. RHAs should deliver evidence-based treatments and programs that are effective for the client as well as cost effective.

Our audit findings

Inter-regional coordination

The need to cooperate between regions

Despite regionalized program delivery, regions still need to coordinate initiatives such as the ones we discuss later in this recommendation under the *Common operating procedures* sub-heading. Smaller RHAs do not have the resources to develop every initiative themselves, so coordinating with other RHAs offers leverage. Group coordination can also result in efficiencies because the group can generate a solution once rather than replicate the effort in every RHA. Regions should also share good practices, again to promote efficiency. And the regions should have a province-wide voice to speak to service delivery issues.

Mental Health Networks do not fulfill the need

We reviewed the terms of reference and recent minutes of the Mental Health Network meetings, both provincial and Southern Alberta. While they discuss initiatives and good practices, they do not have a mandate to coordinate improvements across the province. The mental health system needs a mechanism to manage service delivery across the province. Establishing

Alberta Health Services and one health region should support coordination across the province.

Information systems

The need for integrated information

To ensure integrated client service, practitioners need to share mental health service delivery information. This includes sharing information between the hospital and the clinic, as well as across regions. The system also needs information for the purposes of reporting and accountability. The diversity of information systems interferes with these objectives.

Hospital and clinic information systems

Each RHA uses at least two computer systems to track the treatment of mental health patients and clients[16]. One system is in the hospital, the other in the clinic. These systems are not integrated within RHAs or between RHAs.

Hospital information systems

Hospital software packages serve all hospital services, not just mental health. Hospitals across the province use three computerized information systems: the Calgary region uses Sunrise Clinical Manager; the Capital region uses NetCare; and the remaining seven RHAs use MediTech. Those seven smaller RHAs participated in the RSHIP initiative to introduce a common system in those regions. MediTech is the software introduced by the RSHIP initiative. Calgary and Capital did not participate in RSHIP.

Community mental health information systems

Community mental health programs use at least three different computerized information systems. The Calgary region uses ARMHIS in some clinics and CARA in others. ARMHIS is the legacy system from the AMHB while CARA is a legacy system built by the Calgary region. The Chinook region uses MediTech. The remaining regions use ARMHIS.

Difficult to cross-check between hospital and clinic

Given the different information systems it is difficult to cross-check on patients, whether within RHAs or between RHAs. Clinics do not have access to hospital systems, and most hospitals do not have access to the clinics' system(s). Information sharing is not seamless across the continuum.

Electronic Health Record initiatives

Calgary and Capital are each building their own Electronic Health Record (EHR) software. The EHR can simultaneously access data in the mental health and other computerized information systems. By searching the EHR, mental health workers can access data in all systems for an integrated view of client care. These initiatives are in the development and early roll-out stages. A province-wide EHR would support a seamless continuum of care between regions.

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[16] The exception is in Lethbridge in the Chinook Health Region where they use the same information system for hospital and clinic.

Difficult to cross-check between regions

Between the regions, ARMHIS at one time offered province-wide access to client information from mental health clinics. While the system continues to operate in most RHAs, the province-wide access feature no longer works effectively. If the client moves between RHAs, service providers may not know how the client was treated or whether it was successful. For hospitals across the province, there is no system to check what has happened to clients in other regions.

Province-wide data set defined

The Department and the AMHB have defined a common data set for inpatient and community mental health programs. We reported in our April 2008 Phase I work that the goal is to roll out this data set in April 2009. The RHAs agreed to these data sets but during our field work many RHAs told us they do not have the capacity to collect all of the defined data fields.

Other health information systems initiatives

There are province-wide health information systems initiatives underway. For example, the RSHIP project is ongoing but the mental health workers in the RHAs could not say whether or how quickly mental health modules within the software might be implemented. Similarly, it is not clear how a province-wide EHR initiative might affect information sharing. We did not include these information systems initiatives in the scope of this audit.

Common operating procedures

Mental health divisions do not have operating manuals

The AMHB created a province-wide operational manual decades ago. It was last updated in the 1990s. It includes guidelines on operational matters such as when to close files and how to monitor activities in the clinic. No individual RHA has updated that manual nor is there a province-wide initiative to do so. Even though it is out-of-date, it is still the manual referenced by several RHAs in their daily work.

A plethora of forms available to workers

Mental health services in hospitals and clinics are largely form-driven. The forms serve as an aide-memoire and document results with the client. Many of these forms are integrated with the information systems used in that region. Given the number of information systems and the evolution of mental health services over the years, it is not surprising there are many, often overlapping, forms used in hospitals and clinics. For example, we have seen at least four different suicide risk assessment forms. RHAs still widely use ARMHIS forms, although RHAs have edited some and replaced others. Some forms used at particular RHAs seem to be in a perpetual trial state; some workers use the trial forms while others use older versions. Of course across the province, no single form is used by all hospitals or all clinics. Redevelopment of forms could be one activity to follow a coordinated, cross-regional process.

Training programs vary across RHAs

Mental health is an evolving discipline and service providers need to stay up-to-date. The RHAs can develop consistent training expectations and programs across the province. RHAs require some mandatory courses for their mental health staff. These typically include administrative matters, CPR, and managing confrontations. After that, no RHA dictates further mandatory mental health-specific training. RHAs encourage staff development but there are differences in what is encouraged across the province. We looked at training for workers dealing with aboriginal, suicidal, and concurrent clients. The need for training was consistent, but the acceptable courses varied widely. For instance, many regions sent their mental health staff to the ASIST suicide prevention course while others felt ASIST was too generic for mental health professionals. The mental health divisions could organize and deliver a consistent, tailored curriculum for their staff.

Informal systems to monitor staff training

RHAs should also keep track of which staff have taken which training. We reviewed the systems across the province and they vary from no system to one where managers keep track of the courses their staff have taken. Again, the RHAs could develop a common system so every region can monitor training.

Expanded use of technology like telemental health

RHAs are beginning to use new technologies. For example, telemental health allows long-distance consultation and assessment. When Peace Country Health had no psychiatrists for its Grande Prairie psychiatric unit, it accessed psychiatrists in other parts of the province through telemental health. David Thompson Health Region uses it frequently. Besides serving clients remotely, regions can reduce travel expenses by using technology to broadcast training and hold staff meetings. Coordination is required to develop the system and expand its use.

Evidence-based evaluation

RHAs have collected client feedback in the past

To support the three-year strategic *Regional Mental Health Plans* proposed by the *Provincial Mental Health Plan*, RHAs undertook public consultations in 2004 and 2005. They used focus groups, surveys, and community open houses to collect clients' views about mental health programs, gaps in service, and service delivery priorities. Most RHAs have not repeated similar structured exercises. We recognize that these activities can be expensive and time consuming, especially for smaller RHAs with limited resources. On the other hand they provide valuable information about program success.

Innovation Fund projects routinely evaluated

Beyond collecting client feedback on their performance as service providers, RHAs need to evaluate their programs. Again, this can be expensive but can be and in some cases has been done. The Innovation Fund application and disbursement process requires an annual evaluation for each project. RHAs have collected evidence to prove that innovative programs are cost effective and serve clients better than existing programs.

Good practice

The Calgary Health Region's Information and Evaluation Group is unique in Alberta. Within this group that recently celebrated its tenth anniversary, about 10 staff work exclusively on program evaluation. Their reports generate recommendations that lead to program improvements. For example, their evaluation of Calgary's Access Mental Health (the region's centralized intake process) identified an opportunity to speed the referral process by weeks. Small RHAs would not be able to afford this type of program, but the province's mental health service delivery system could benefit from an evaluation program that covered all RHAs.

Implications and risks if recommendation not implemented

Without provincial coordination, it will be difficult for regions to discuss their concerns and develop efficient solutions for common issues. The issues include matters such as common information systems and operating procedures. Common procedures achieve efficiency, leverage, and consistency within regions and across the province. Without common or at least compatible operating procedures, information systems, and evaluation processes, it is difficult to analyze service delivery across the province, improve efficiency in the system, and adjust programs to improve service.

5.7 Improving community-based service delivery

Recommendation

We recommend that Alberta Health Services strengthen service delivery for mental health clients at regional clinics by improving:

- **Wait time management.**
- **Treatment plans, agreed with the client.**
- **Progress notes.**
- **Case conferencing.**
- **File closure.**
- **Timely data capture on information systems.**
- **Client follow up and analysis of recovery.**

Background

Clinics follow the medical model

Mental health clinics evolved in the 1960s in Alberta. Thanks to the development of drug regimens, people with a mental illness were able to remain in the community. Mental health services moved out of hospitals and special facilities and into community clinics. The clinics follow the medical model of clients visiting their professional service provider at a clinic. The processes for appointments, client charts, and treatment programs should meet professional standards.

Importance of documentation in client files

Mental health workers across the province told us: if it wasn't documented, it didn't happen. Documentation is a fundamental clinical requirement in the mental health field. Mental health programs have long set standards for documentation. Documentation underpins continuity of service for each client and helps determine whether the treatment program is succeeding. It also supports the evaluation of overall service delivery in the clinic. Finally, it mitigates the risk of litigation.

Our audit findings

We reviewed 190 Adult Short Term files

During our audit, we examined about 190 client files from clinics across the province. We always examined the Adult Short Term program, where the client visits the therapist in the clinic. Where the RHA ran other adult programs from the clinic, we also examined a sample of those files.

Wait time management

Wait times need to be managed

Almost all the mental health programs we examined were fully subscribed. Most had wait times for new clients. When programs are full and mental health resources fixed, mental health management needs to consider innovative approaches so new clients can enter. The alternatives to innovation are long wait times or heavy case loads per therapist.

Variation in wait times for Adult Short Term

For example, wait times for the Adult Short Term program varied across the province. We measured wait time from when the client contacted the mental health system until he began his treatment. In city clinics, the average wait time (as calculated by our sample of files) varied from two weeks to more than ten weeks, averaging about five weeks. In small communities, it varied from one week to five weeks, averaging about two weeks.

Management can make better use of activity data

Management can use activity data to manage wait times, case loads, and data capture. Software like ARMHIS provides standard reports on therapists' case loads, recent client contacts, and dormant files. None of the managers that we interviewed routinely reviewed these reports. In some regions such as Calgary, a mental health colleague periodically reviews these reports with therapists. But in general, closer management of therapists' case loads can identify opportunities to improve service. As well, reviewing these reports would highlight data entry issues. Later in this recommendation, we note that many RHAs have a problem keeping this data up-to-date.

Good practice

The Red Deer clinic in the David Thompson Health Region adjusted its processes to shorten wait times. When wait times for the Adult Short Term program exceeded eight weeks, management implemented a Brief Therapy program. Initial triage directed mildly ill clients to the Brief Therapy program, thereby freeing capacity in Adult Short Term.

Treatment plans

Treatment plans not always completed

Professional requirements and RHA procedures call for treatment plans. Plans should describe the proposed therapy, the frequency of client visits, and expected duration of treatment. However, most treatment plans were either not done or done poorly. We accepted almost anything labelled "treatment plan" in our file tests. Even so, many clinic files did not have a treatment plan. For example in the six city clinics we visited, the percentage of files without a plan ranged from 17% to 85%. In two of the six smaller centres we visited, the files we examined contained no treatment plans.

Quality of plans should improve

The quality of treatment plans could be very low indeed. One plan said, in its entirety, "Psychotherapy; chemotherapy". Management needs to ensure that documentation reflects a clear treatment plan. Without one, therapy can be open-ended and undirected.

Treatment plans not agreed with clients

Treatment plans should be discussed and agreed with the clients. This did not happen in our sample. As well, our focus groups told us that only 10% of service users felt they had been involved in developing their plan; few were aware of a specific plan. Family members were not often asked for their input although when it comes to discharge, they are often the ones expected to deliver care to their family member.

Progress notes

Templates can improve quality of progress notes

For every client event, the therapist writes progress notes for the file. However most notes do not answer the question, "How is the treatment progressing?" Notes are generally the novelization of the client's life, detailing the client's activities and feelings since the last visit. Notes need to tie back to the treatment plan and describe what was done during the visit, how the client reacted, and what the next step needs to be. Regions like Palliser and David Thompson have developed a template for notes that guides therapists to comment on key treatment elements. File review by management and remediation for weak performers would ensure that therapists follow the template and produce stronger progress notes.

Some notes are incomprehensible

Just reading the progress notes can be a major challenge. The great majority of notes are hand written. Many therapists' scrawl can be incomprehensible. Under those circumstances, a reader cannot tell what has happened with the client's treatment. Computers and typed progress notes would answer this issue, although most clinics do not provide computers to each therapist.

Notes should describe every treatment event

There should be notes for every client event. We found this to be the case with one-to-one sessions. However, when the client attended group therapy sessions or received outreach visits, progress notes became non-specific. Instead of describing a particular event with a particular client, progress notes covered multiple clients or multiple events. While this saves time for the note writer, notes made from distant memory may be inaccurate or imprecise.

Case conferencing

Case conference process

Case conferencing is a common mental health procedure. The therapists in a clinic gather weekly to discuss selected cases. Typically therapists discuss cases early in the assessment and treatment stage to confirm the proposed treatment. If treatment does not produce the expected results, the case can be conferenced again to consider alternative approaches.

Cases not always conferenced per requirements

We sat in on conferences and looked for documentary evidence of conferencing in the client files. Generally RHAs require conferencing at least once during treatment. We found that RHAs did not conference at the assessment stage as frequently as their policies required. For the cities, the percentage of files in our sample that had been conferenced ranged from 5% to 84%. Clinics did not often conference cases again, no matter how long the client remained in therapy. Our file review showed that therapists conferenced 3 of 25 long-term cases.

File closure

RHAs have file closure rules

Every RHA has rules about file closure, although the rules differ across the province. Typically, when the therapist and client complete therapy, or if the therapist does not see or hear from the client for 30 days (or 60, or 90 depending on the RHA), the therapist should close the file. This entails writing a closure summary that should assess the success of treatment.

Files often stay open beyond closure limit

We reviewed 81 files that should have been closed, but 25 of these were not. The reason commonly given for not closing a file was that it takes time; should the client return, even more effort is required to re-open it. File review processes by clinic management were not strong enough to enforce the RHA's rules.

Timely data capture

Clinics often untimely with data entry

Clinics have trouble keeping the data in their computer systems up-to-date. In the Calgary clinic that we audited, staff had not entered event data (i.e. information about client sessions) for six months due to staff illness and retirement. Other RHAs had lesser delays but all clinics we visited suffered some level of untimely data entry.

Client follow up and analysis of recovery

Files do not always analyze recovery of client

At the end of treatment, therapists should analyze whether treatment helped the client recover. The judgment of the therapist and/or client determines whether the client has recovered and to what degree. However, in our file reviews we found only 25 of 81 closed files analyzed the success of recovery. No RHA collects these statistics in its information systems.

RHAs do not collect client satisfaction data

Nor do most RHAs systematically collect satisfaction feedback from their clients. RHAs send out surveys to recent clients from time to time. But to reinforce the view that clients have not been canvassed, more than 90% of our focus group participants told us they had not been asked for input, whether related to their personal experience or for input into program design.

Implications and risks if recommendation not implemented

Without wait time management, the clinics will find it difficult to manage the flow-through of clients. Unless clients complete their treatments, the only way to take in new clients (assuming constant resources for the program) is to increase caseloads, which affects the quality and frequency of treatment.

Without treatment plans agreed with the client, expectations for treatment are not clear. For clients who approve, the treatment plan can be shared with family members who can support the client in his recovery. Treatment plans are a foundation to assess the client's progress.

Without internal processes like progress notes, cases conferencing, file closure, and client follow up, it is difficult to assess a client's recovery or adjust treatments. These processes also support caseload management for therapists and the assessment of program success.

Without timely and complete data in the computer system, management lacks an important tool to assess caseloads and wait lists.

5.8 Funding, planning, and reporting

Recommendation

We recommend that the Department of Health and Wellness and Alberta Health Services ensure the funding, planning, and reporting of mental health services supports the transformation outlined in the *Provincial Mental Health Plan* as well as system accountability.

Background

Funding

The Department of Health and Wellness funds the RHAs. Two major elements of annual funding are global funding and province-wide funding.

Global Funding has a mental health component

Global Funding covers most of an RHA's operating costs. It is a population-based allocation system; the system is described annually in a Department brochure[17]. Global Funding has a mental health component that began in 2003-04 with the devolution of services from the AMHB to the RHAs. While they can spend their overall health allocation any way they see fit, RHAs view the mental health allocation from the Department as an indication of what their mental health budget should be.

No mental health component in province-wide funding

Province-wide funding applies to defined, centrally delivered activities that cannot be economically replicated across the province. These activities include specialized surgeries, unique programs, and expensive drug regimes. Province-wide funding does not currently apply to mental health services.

The *PMHP* called for a Transition Fund

In 2005, the Department added Mental Health Innovation Funds to the funding mix. One implementation priority of the *Provincial Mental Health Plan* called for a transition fund to implement "the new directions set in this provincial policy". During transformation to the new service delivery model, RHAs expected to maintain their hospital and facility operations at historic levels while they built capacity in their community-based services. Once capacity was built, inpatient psychiatric demand would decline and the system would return to its previous financial level.

Transition became Innovation

The notion of a transition fund evolved into the Innovation Fund. It was no longer specifically for transition. The program rules (which we reviewed during Phase I) emphasized filling gaps in service. $75 million was distributed to the RHAs over three years ending in 2009.

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[17] For the 2007-08 funding manual, see: http://www.health.alberta.ca/regions/RHA07to08FundManual.pdf

RHA budgeting

All RHAs do the budgeting expected of large, complex organizations. The RHA's activities are broken down into divisions and sub-divisions, one of which is mental health. The mental health budget is further subdivided into units. At the most granular budget level, a manager or supervisor is responsible for a program or activity; it is usually a cost centre approach where both revenue and expense are budgeted annually.

Planning

Regional Mental Health Plans for 2006-09

All RHAs follow certain government-dictated planning processes. A *Provincial Mental Health Plan* implementation priority obliged each RHA to develop a strategic *Regional Mental Health Plan* in 2005. Each *Regional Plan* had a three-year window, 2006-09. The Department of Health and Wellness and the AMHB reviewed these *Regional Plans* and the Minister approved them. To support the strategic *Regional Plan* initiative of 2005, every RHA undertook some form of needs assessment and collected input from the public.

Annual *Health Plans* with a mental health component

Each year every RHA creates a *Regional Health Plan* that offers a three-year view of goals, initiatives, and measures for all health care responsibilities. This is a public document, approved by the RHA Board and the Minister of Health and Wellness. Every RHA *Plan* contains a mental health section with a narrative, measures, and targets. Each year the RHA also creates a one-year *Business Plan*. The *Business Plan* integrates business initiatives with the financial budget at a more detailed level than the *Regional Health Plan*. The *Business Plan* is not a public document.

Reporting

RHAs' public *Annual Reports*

Year-end reports typically respond to plans from the beginning of the year. For example, an RHA's *Annual Report*, a public document, answers to its *Regional Health Plan*. A *Report* contains a narrative about mental health activities, performance measures, plus the RHA's financial statements.

Performance measures indicate how key strategies are progressing. Measures support the evaluation of system results, as opposed to evaluating individual client progress or program success.

Our audit findings

Funding

The financial piece can support transformation better

Funding decisions by the Department and RHAs do not specifically support the transformation described in the *Provincial Mental Health Plan*. The financial foundation for transformation can be strengthened. Predictability and certainty of funding encourage service providers to implement long-term strategies as they transform their service delivery systems.

Funding methods change

Since 2003, the Department has regularly changed its methods to allocate annual mental health funding to RHAs. Changing the funding method makes it more difficult for an RHA to predict future funding. Uncertainty in funding makes it difficult for RHAs to implement the long-term strategies necessary to transform the system.

Cost to operate specialized mental health facilities is high

The cost of operating specialized facilities is increasing significantly. These facilities include Alberta Hospital Edmonton, the Centennial Centre in Ponoka, and the Claresholm Care Centre. For example, the rate of increase in cost to run the Centennial Centre in the David Thompson Health Region (DTHR) has outpaced the average funding rate of increase for mental health in the region. DTHR's expenditure on community-based care has actually decreased over four years.

Funding facilities as province-wide services

To transform Alberta's mental health service delivery according to the principles outlined in the *Provincial Mental Health Plan,* RHAs need to expand community-based services. The high cost of special facility operations puts financial pressure on the RHAs' community programs. If facilities are truly provincial resources, a funding approach that treats them as province-wide services might be more appropriate.

Uncertainty about Innovation Funds after 2008-09

About 2% to 3% of mental health funding comes from the Innovation Fund. All RHAs expressed concern how to continue the Innovation Fund projects after 2008-09 if the Department were to cut off the funding source. The Department has recently annualized this funding, so the concern is now resolved. However, it is another example of the RHAs' uncertainty about long-term funding.

RHAs' mental health budgets continue to grow

On devolution of services from the AMHB to the RHAs, service providers worried that RHAs might redirect mental health funding to prominent health concerns such as surgeries. We examined the RHAs' budgeted and actual expenditures from devolution to 2008. All RHAs have increased their mental health budgets and expenditures over that period. Not all RHAs matched their mental health expenditure rate of increase to their overall rate of increase in health expenditure, but none have reduced their mental health budget over the five year period.

Planning and Reporting

Strategic mental health plans need to be updated

The 2006-09 window for the RHAs' *Regional Mental Health Plans* is coming to an end. Like the *Provincial Mental Health Plan*, these strategic plans should be updated. While several RHAs told us they were starting the process to report against their strategic plans, only Capital has updated their three year strategic plan (now covering 2008-10). Capital has complemented its strategic plan with a three-year mental health budget.

Annual planning should reflect mental health's importance

The annual three-year *Regional Health Plans* which cover all RHA activities do not contain enough information to allow readers to determine the RHAs' mental health goals, strategies and intended results. The *Regional Health Plan* should clarify expectations for mental health for the three years covered and set the foundation for system accountability.

Mental health planning tends to have a one-year horizon

We are concerned that mental health planning tends to have a one-year horizon. If the mental health system is to be transformed in accordance with the *Provincial Mental Health Plan*, the RHAs' three year strategic *Regional Mental Health Plans* should be updated and supported by three year budgets that indicate the funding necessary to achieve the transformation initiatives.

RHA accountability for mental health is weak

We are also concerned that little public information is available on mental health goals, initiatives, and results. Since the *Regional Health Plans* have limited information about mental health, the corresponding *Annual Reports* also contain little information on the progress of mental health. The mental health portion in the RHAs' *Annual Reports* focuses on activity levels and the introduction of new programs. It needs to assess the results of the mental health service delivery system.

Performance measures numerous but of limited value

The performance measures in the *Reports* do not add much clarity. Broadly speaking, measures record activity levels (e.g. numbers of programs or Health Link calls), surveys (e.g. client satisfaction or residents reporting good mental health), and statistics (e.g. suicides in the region). Readers will find it difficult to align these measures with the RHAs' goals and objectives. RHAs have not set quantifiable targets or even reported actual results for many measures. RHAs report between eight and 25 measures each year, but they change their suite of measures regularly so there is little continuity over time. A stronger and more consistent set of measures across the province would enhance accountability.

Impossible to tie costs to activities and results

The RHAs' financial statements do not disclose mental health costs separately. As a result, readers of the *Annual Reports* cannot match costs with activities and results. External readers will find it hard to assess the RHAs' mental health performance. This finding parallels our Phase I work where we recommended the Department of Health and Wellness and the Alberta Mental Health Board strengthen planning and reporting and ensure a sound accountability framework for mental health in Alberta.

Implications and risks if recommendation not implemented

Without longer term certainty in funding, RHAs are not encouraged to work towards their longer term plans. It is difficult to achieve systemic change with an annual, as opposed to longer-range, planning and budgeting focus. Without stronger public accountability, there is a risk that the goals of the *Provincial Mental Health Plan* may not be pursued or met by regional service providers.

5.9 Aboriginal and suicide priorities

Recommendation

We recommend that the Department of Health and Wellness and Alberta Health Services consider whether the implementation priority for aboriginal and suicide issues is appropriate for the next provincial strategic mental health plan.

Background

Aboriginal Mental Health Framework

The *Provincial Mental Health Plan* has a strong aboriginal component. It advocates community-based strategies, aboriginal service providers, and culturally appropriate treatment. The *Aboriginal Mental Health: A Framework for Alberta*, published in 2006[18], reinforces this priority. In terms of implementation, the *Framework* offers five "Strategic Directions": service development; human resources; research and evaluation; funding; and data collection and information.

A Call to Action, Alberta's suicide prevention strategy

The *Provincial Mental Health Plan* lists suicide prevention as an implementation priority. As a result, the AMHB developed *A Call to Action*, a 2005 strategy that sets targets to reduce Alberta's suicide rate. As we reported in April 2008[19], specific funding for suicide prevention activities (the first goal of the strategy) has not been secured. We concluded that while some RHA initiatives had gone forward, without dedicated funding RHAs may not be able to maintain this priority's momentum.

Our audit findings

Not clear that mental health initiatives can produce strategy results

Having examined aboriginal and suicide initiatives across the province, we conclude the RHAs are implementing these priorities from the *Provincial Mental Health Plan* and its subsidiary plans. While the RHAs have initiated worthwhile programs that should continue, it is not clear that pursuing these aboriginal and suicide initiatives can realize the goals and results envisioned in the *Plan*. So many factors affect aboriginal mental health and suicide behaviours that programs by mental health divisions have limited impact. As we reported in our Phase I report in April 2008, it is uncertain whether the RHAs can achieve the goals of the provincial strategy through their initiatives.

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[18] http://www.amhb.ab.ca/Initiatives/aboriginal/Documents/Aboriginal_%20%20Framework.pdf

[19] Our report is available at: http://www.oag.ab.ca/files/oag/April_2008_Annual_Report.pdf, pp. 89 and 90.

Uneven progress on *Framework*'s objectives

The *Aboriginal Framework* does not specify how or who should implement its strategic directions. From our work across Alberta, we saw uneven progress on this priority. Some RHAs with small aboriginal and Métis populations have not implemented the strategies suggested in the *Framework*. Some RHAs have hired aboriginal mental health workers and are providing aboriginal cultural training to their non-aboriginal employees. Some are also adding cultural activities such as sweetgrass ceremonies to their programs. However, we note three challenges that threaten the success of the *Framework*'s goals.

No model to deliver integrated treatment

From our examination of practices in Alberta and a brief review of practices internationally, it does not seem that anyone has developed a practical, evidence-based model to integrate modern medical treatments with traditional holistic approaches.

On-reserve service integration needs to develop

The aboriginal communities, Health Canada, and the provincial health system have not resolved the jurisdictional disputes that inhibit integrated service. While we identified RHAs where individual service providers go on-reserve to deliver service, we did not see evidence of integrated mental health service delivery on-reserve.

Lack of data on aboriginal mental health

No RHA rigorously collects data on aboriginal mental health issues. Without a system of data collection, RHAs will not contribute to the "need for more accurate data specific to the Aboriginal people" as advocated in the *Framework* strategies.

Suicide prevention programs and support

Our field work across Alberta confirms that RHAs have responded to *A Call to Action* by introducing a variety of suicide prevention programs. For example, goals 3 and 4 of *A Call to Action* encourage improved intervention programs and increased support for those affected by suicide. All RHAs deliver suicide prevention programs and most offer post-vention programs. Not-for-profit organizations deliver many of these programs.

Good practice

Goal 7 deals with surveillance systems that collect, analyze, and interpret suicide data. Calgary studied ten years of its own statistics for clients who committed suicide while in RHA care. They found their statistics closely mirrored what the literature says: hospitalized patients are at greatest risk shortly after their discharge. With local data to support their case, Calgary developed a pilot program called "Seven Day Follow Up". The pilot showed that follow up improved compliance with medication and therapy.

Difficult to assess effectiveness of suicide programs

However the effectiveness of suicide prevention and post-vention programs is still not clear. For example, service providers debate whether the Critical Incident Stress Management (CISM) model[20] for post-vention is effective. Some RHAs rely on CISM while others point to research that suggests it may be counterproductive for many clients. This is an example of the difficulty in assessing how influential mental health interventions are in reducing suicidal behaviour.

Implications and risks if recommendation not implemented

Unachievable goals and targets can result in ineffective strategies and cause resources to be misallocated among mental health priorities. Strategies that cannot be measured in terms of their contribution to goals and targets make it difficult to assess their success.

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[20] CISM is a process designed to help clients reduce the chance of post-traumatic stress after experiencing a disaster. One of the disasters to which CISM responds is suicide by family, friends, or colleagues.

Appendix A:
Summary of focus groups and surveys

Focus groups

Five topics discussed with service users

We summarize service users' feedback by the five topics discussed in our focus groups: hospital-based services; community-based services; housing and supportive living; input by service users and their families; and progress in implementing the *Provincial Mental Health Plan*.

Hospital-based services

Difficult access and entry

Almost all service users had difficulty accessing hospital-based mental health services and the mental health system overall. The majority of service users said the diagnosis process was long and difficult. Most service users said they think their family physicians have limited mental health knowledge and thus are not particularly helpful in diagnosing mental illness or issues. Most family members gave accounts of being dismissed or ignored when bringing the mental health concerns of a family member to the mental health practitioners.

Identifying needs and getting diagnosed

Almost all service users reported barriers in their initial attempts to have their mental health needs recognized and addressed, including not knowing where to go for mental health help other than the hospital emergency room (ER) or family physician. The majority of service users reported having to make several visits to the ER or to the family physician before their mental health needs were recognized as mental health needs. Almost all service users with depression reported having difficulty accessing services as they felt that their concerns were initially downplayed or dismissed.

Limited mental health knowledge in ERs

Almost all service users depict ER staff as having limited or no knowledge about mental health or mental illness. Almost all service users believe that mental health is not a priority for the ER; this limits the care that service users receive. Almost all mental health service users feel that they get lost in the ER as there is no standard process to address mental health needs. There is no consistency in the presence of mental health professionals or crisis support within the ER.

Good response when mental health professionals in ER

Where mental health professionals or crisis services are available within the ER, service users reported a good response to their mental health needs. However, mental health professionals in the ER are the exception rather than the rule through most regions.

Multiple needs not well served

Almost all service users with multiple needs reported difficulty obtaining services to address their full range of needs. In general, services are restricted to the mental health need or the other need but not both. Almost all service users perceive a lack of coordination across services. The system offers limited access to collaborative approaches that address multiple needs (e.g. concurrent disorder treatment coordinated between mental health and AADAC).

Users not clear about their treatment plans

The majority of service users who had been inpatients on a psychiatric unit stated they felt supported in their care and were positive about their overall experience. However, almost all service users seemed unclear whether they had a treatment plan. Most service users indicated that treatment plans need to be a team effort between patient and professionals.

Issues with discharge planning

Almost all service users noted some difficulty with the transition from hospital to community at some point in their experience. Most service users reported that they were discharged without active discharge planning (i.e. without being actively connected to a full range of community services). Several service users reported that being actively connected to community services and programs upon discharge contributed to their ability to remain in the community. Most service users note that discharge referrals relate more to the medical and medication aspects of the illness than to basic needs and supports such as housing, income, employment, recreation and so on. Most family members talked about not being included in discussions or planning while their family was in hospital. However once it was time for discharge family members were identified as the sole source of support.

Community-based services

Service users pleased with the services they currently receive

The majority of service users said they were pleased to get community mental health services and were conscious of the pressures on the service delivery system. Almost all service users said they want to be supported to stay in the community. All service users view community mental health services and programs as the "backbone" of the mental health system and believe that the concentration of resources should be in the community. Almost all service users are pleased with their mental health services when they are supported by outreach services. However, they do not think they get all the services they need in the community.

24/7 crisis response not commonly available

Almost all service users prefer mental health crisis services that focus on helping people remain in the community without having to go to hospital. Most service users noted that crisis services available on a 24 hour, seven days a week basis are currently not available in all regions or across all regions. The majority of service users would like community-based crisis services on a 24/7 basis.

Case management not generally available

Most if not all service users feel they could benefit from case management or system navigation; both services are not seen as generally available. Most service users said if they had a treatment or service plan in place, they were not aware of it.

Outreach programs key to community living

Most service users believe that outreach supports that are flexible and address individual needs are key to staying healthy and in the community. Several service users stated that they are not able to access outreach services even though they feel they would benefit from these services. Most service users note they rely heavily on community agencies for a broad range of peer support and advocacy activities.

Limited services going out to the service user

Almost all service users acknowledge the importance of addressing basic needs as part of improving their mental health. In addition to housing and supportive living, service users identified income support and assistance with employment programs as valuable. Most individuals reported that they were seeing a therapist at a community mental health clinic and/or a psychiatrist on a regular basis, and this was often all they were accessing. They were for the most part happy to have these therapeutic services but many noted they would like to access other options.

Limited coordination of services

Most service users identify a lack of consistency in service options across regions as well as within regions. Most service users reported that there is limited coordination between services and programs. Most service users identified a lack of awareness and even confusion about available services and how to access them.

Housing and supportive living

Problems in housing

Most service users in the focus groups had housing options. Some service users emphasized there are very limited housing options for individuals known to have mental illness and or to be on income support. Very few service users had help from the mental health system in acquiring housing.

Support delivered to their homes is critical

Where service users have supports going to their home, they are extremely pleased and feel able to stay well. Most service users noted supportive living options are limited and difficult to access. Almost all service users state that having supports provided where they live is more helpful than any other service in dealing with their mental illness.

Input by service users and their families

Service users not asked for their input

Almost all of the service users do not feel that they are involved in or asked for input about the care and treatment they receive from the mental health system. Except for six of the 103 attending, service users have not been asked for input from the regional health authorities in either satisfaction surveys or providing input into program delivery or design.

Progress in implementing the Provincial Mental Health Plan

Little has changed

Almost all service users thought that little has changed since the release of the *Provincial Mental Health Plan* more than four years ago.

Surveys

Structure of survey responses

Our survey questions required the following types of response: yes or no; defined levels of activity (e.g. 0 to 1%; 2 to 25%; 26 to 50%; etc.); selection from a list of suggested answers (where one or more answers were permitted, depending on the question); and a five-point scale where 1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, and 5 = strongly disagree.

Physicians

We surveyed 13 AMA sections

The three psychiatric specialties amongst the 13 surveyed AMA sections were: general psychiatry; child and adolescent psychiatry; and generalists in mental health. The ten of 13 sections that were not psychiatric specialists (in descending number of responses in our survey) were: general practice; rural medicine; emergency medicine; pediatrics; internal medicine; obstetrics and gynecology; neurology; addiction medicine; community health; and occupational medicine.

Three parts to our survey: demographic, practice, coordination

We divided the survey into three parts. We first asked for demographic information about the physician (e.g. where he worked, whether he is a member in a primary care network). The second part focused on the physician's practice (e.g. whether demand for mental health services has increased, what type of mental health work is provided). The last part focused on coordinated mental health service delivery (e.g. whether the physician had timely access to experts or community services).

Demographic information

About 38% of respondents were general practitioners; 28% were psychiatric specialists; almost 10% were emergency medicine physicians; the remaining 24% were distributed amongst the other 10 AMA sections. About one-third practised in the Calgary Health Region, about one-third in Capital, and the remaining third around the province. About one-third were members of a primary care network.

Practice information

Physicians reported their patients had mental health issues at the rate suggested by mental health literature. Specialists' practices deal solely with mental health patients; the other sections report that up to 50% of their patients have mental health issues. Physicians, both psychiatric specialists and others, spend about half their time allotted to mental health patients assessing and diagnosing, while about a quarter of their time with these patients goes to non-medical interventions such as therapy. Physicians report that demand for mental health services has increased in the past three years and two-thirds of physicians have taken some form of mental health training in that time frame.

Importance of coordinated service between physicians and RHAs

To the question, "To which service providers do you refer patients with mental health issues?", the most frequent answer was to community mental health clinics and outpatient programs. The second most frequent was psychiatrists while the third was other RHA mental health services. Community mental health clinics and outpatient programs was also the most frequent answer to the question, "With which service providers would you like to have a closer working relationship?" These responses indicate the importance of coordinated service between physicians and the RHAs' mental health programs.

Physicians not satisfied with RHA services

More than 60% of respondents disagree or disagree strongly with the statement, "I am satisfied with the local support/specialist mental health services in my RHA". The psychiatric specialists and emergency physicians are more likely to agree or strongly agree with that statement but still indicate disagreement at rates above 50%.

Physicians have concerns with aspects of coordination

On a series of questions about particular mental health issues, physicians indicated their concern. We list the issues relevant to our audit findings, followed in parentheses by the percent of those agreeing (agree or strongly agree) and disagreeing (disagree or strongly disagree) that the issue is adequately handled.

- Access to specialists is timely (14 % agree; 72% disagree);
- Case management and community follow-up are adequate (8% agree; 70% disagree);
- Appropriate mental health community treatment programs are available (14% agree; 60% disagree);
- Appropriate housing options are available (3% agree; 74% disagree);
- Mental health service delivery in Alberta has improved in the last three years (17% agree; 45% disagree).

Psychologists

Three parts to our survey: demographic, coordination, service delivery gaps

We divided the survey into three parts. We first asked for details about where and how the psychologist delivers his services. The second focused on the psychologist's view of coordination and collaboration in the mental health system and his relationships with other service providers. The third focused on systemic mental health service delivery gaps of concern to the psychologist (e.g. whether appropriate housing options are available or access to mental health specialists is timely).

Demographic information

About 40% of respondents worked in the Calgary Health Region; 38% worked in Capital. The remaining 22% were distributed between the other 7 RHAs. Amongst the respondents, about 33% identified themselves as primarily being in private practice; 15% worked in RHA community mental health clinics or other RHA community services; 13% worked in the school system; 11% worked in hospitals. The remaining 28% worked in the forensic system, for federal government or not-for-profit organizations, or in other areas.

Practice information

When dealing with mental health clients, about 67% of respondents indicated most of their effort was spent providing treatments (e.g. therapy, counselling); just over 20% indicated they spent most of their time assessing and diagnosing clients. Just over half of the respondents indicated demand for mental health services in their practice had increased significantly in the past three years.

Importance of accessing a continuum of mental health expertise

To the question, "To which of the following service providers do you refer mental health clients?", psychologists singled out three in particular. 67% of respondents identified psychiatrists, 65% listed other psychologists (i.e. specialists in different types of therapy), and 62% named community mental health clinics and outpatient centres. 67% of respondents identified outpatient and community treatment programs as the organization or service provider with which they would like to have a closer working relationship around mental health cases. These responses demonstrate psychologists' reliance on access to a continuum of mental health care in treating their clients.

Continued need to provide information about mental health services

More than 57% of respondents disagree or strongly disagree with the statement "I receive adequate information about mental health resources available in my health region", while 26% either agree or strongly agree. To the question, "I receive sufficient information via systematic updates about available mental health services and programs from other organizations and service providers", almost 70% of respondents disagree or strongly disagree while only 17% agree or strongly agree. These results suggest there is room for improvement by Alberta Health Services and regional managers in disseminating information about available mental health services.

Psychologists have concerns with aspects of the mental health system

On a series of questions about particular mental health issues, psychologists indicated their concern. We list the issues relevant to our audit findings, followed in parentheses by the percent of those agreeing (agree or strongly agree) and disagreeing (disagree or strongly disagree) that the issue is adequately handled.

- Access to specialists is timely (13% agree; 82% disagree);
- Case management and community follow-up are adequate (7% agree; 78% disagree);
- Appropriate mental health community treatment programs are available (14% agree; 73% disagree);
- Communication between service providers is adequate (11% agree; 69% disagree);
- Appropriate housing options are available (3% agree; 74% disagree);
- Service delivery coordination for mental health in Alberta has improved in the last three years (15% agree; 51% disagree).

Appendix B: Our audit approach

Audit objectives

Three interrelated audit objectives

For Phase II of our mental health audit, we examined aspects of mental health service delivery in the nine regional health authorities (RHAs). We had three interrelated objectives for our work. We wanted to determine whether:

- there is a functioning mental health continuum of care for mental health clients and patients in every region of the province, all other factors such as geographic size and population differences being equal;
- the RHAs are actively implementing the principles of the Provincial Mental Health Plan;
- we could identify good practices in mental health service delivery.

Audit scope

Sampled seven components within mental health

We could not examine everything in a field as vast as mental health. To maintain a manageable scope, we audited RHA service delivery only[1]. Within the RHAs' service delivery, we sampled and sub-sampled programs[2]. From our knowledge-of-business and Phase I work, we categorized 22 mental health "components" or program areas. These included components such as child and adolescent mental health, senior's mental health, forensic mental health, funding models, and collaborative services. Of these 22, we chose seven components that would give us sufficient coverage of mental health. The seven are:

- Hospital-based programs (only systems related to length of stay, emergency room mental health protocols, and discharge planning);
- Community-based programs (our largest component of work dealing with aspects of intake, assessment, crisis intervention, treatment, discharge, and information systems);
- Housing and supportive living;
- Concurrent programs (i.e. clients with addiction as well as mental health issues);
- Planning and reporting systems;
- Aboriginal mental health;
- Suicide prevention.

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[1] Other Alberta government ministries deliver mental health services. For example, the education system offers services to students, the correction system offers services to prisoners, etc.

[2] This included direct service delivery by the RHA and services delivered by contracted agencies.

Only adult programs examined

Even within these seven components, we could not audit everything. We further refined our scope by concentrating on adult programs only. As well, we sub-sampled within each component when RHAs had multiple adult programs.

Exclusions from audit scope

With this scope, we did not audit a wide swath of mental health programs. However, the scope of what we covered provides us with sufficient appropriate audit evidence on which to base our conclusions. To give a taste of how broad the scope of mental health is, here is a partial list of exclusions from our audit:

- Geriatric programs;
- Children and adolescents' programs;
- Forensic programs;
- Specialized mental health facilities such as Ponoka's Centennial Centre, the Claresholm Care Centre, or Alberta Hospital Edmonton.

In particular, we did not question the treatments prescribed by doctors, psychologists, and therapists. We audited the systems that support the work of the mental health professionals.

Audit period was 2007-08

Our audit period was April 2007 through March 2008. When we drew samples, we defined our population as 2007-08 or a portion thereof. We completed the work at the RHAs and, where services were outsourced to not-for-profit organizations, at those organizations. We also sought the feedback of psychiatrists and psychologists through survey as well as mental health clients through focus groups. This feedback provided us with corroborating evidence that we have used throughout this report.

RHA visits

Six RHAs audited in detail; three reviewed

We visited all nine RHAs over a period of 13 weeks from April to July 2008. We performed audit quality work at six of the RHAs: Chinook, Calgary, David Thompson, East Central, Capital, and Peace. We had two audit teams in the field at once. Our three- or four-person teams spent at least two weeks at the smaller RHAs and three weeks at Calgary and Capital. We performed review quality work at the remaining three RHAs: Palliser, Aspen, and Northern Lights. In these visits, a two-person team spent two days in each RHA.

The difference between audit quality and review quality is the extent of work, the quality and quantity of evidence, and therefore the level of assurance we have in drawing conclusions and making recommendations. We summarize our work below.

Audit visits
At each RHA, mental health management had organized extensive documentation of their systems and organization. We reviewed this information and interviewed management and workers to confirm our understanding of those systems. We examined patient files in the hospitals and clinics. Our sampling methodology was judgmental and purposeful.

In the major city in each of the six RHAs, we:
- Visited a city hospital. In Calgary and Capital, we chose one hospital of the three or four city hospitals (respectively) that have psychiatric units. In all cases but Camrose in East Central, the hospital we visited is a designated facility under the *Mental Health Act*. At each of these hospitals, we interviewed emergency room (ER) and psychiatric unit staff and toured the facilities.
- Examined 132 inpatient files in total. We sampled from discharges between April 1, 2007 and March 31, 2008.
- Examined 82 inpatient files for ER visits whose primary diagnosis was mental health. We sampled from visits between October 1, 2007 and March 31, 2008.
- Visited one mental health clinic, interviewed staff, toured the facility, and observed processes such as scheduling appointments, data entry, and case conferences.
- Examined 131 client files from the adult short term program, as every RHA has such a program.
- Examined 16 client files from a selection of other adult programs offered. In the larger RHAs, there are programs other than adult short term (e.g. ACT, outreach, and community extension).
- Interviewed a selection of not-for-profit organizations contracted by the RHAs to deliver mental health services.
- Collected summary statistics as consistently as we could, given the differences in computerized information systems and operational practices across the province. We also verified the completeness and accuracy of data on those systems by tracing sample information in the inpatient/client files to the computer system.

During each of the six RHA visits, we selected a smaller town in which the RHA has a mental health clinic. During a one-day visit to that town, we:
- Visited the local hospital and interviewed ER staff. These hospitals did not have a psychiatric unit.
- Examined 57 inpatient files of ER visits whose primary diagnosis was mental health. We sampled from visits between October 1, 2007 and March 31, 2008.

- Visited the local mental health clinic and interviewed staff.
- Examined 55 client files from the clinic.

Review visits
At each of the three RHAs we visited, mental health management had organized extensive documentation of their systems and organization. We reviewed this material and interviewed management and workers to confirm our understanding of those systems. We reviewed patient or client files in the hospitals and clinics only to confirm our understanding of systems.

Focus groups

The work described above took place in the RHAs' premises. We also wanted to obtain the opinions of mental health service users and their families. We accomplished this through focus groups held around Alberta. We divided the province into five regions (south, Calgary, central, Edmonton, and north) and performed a series of focus groups in each region. In total, we held 24 focus groups with 118 participants, 103 of whom were service users and 15 family members. We summarize the results in Appendix A.

Surveys

We also wanted feedback from professional groups that play a key role in delivering mental health services in Alberta. During our RHA visits, we met many administrators, nurses, social workers, and outreach workers in the mental health field. We did not have the opportunity to meet as many physicians or psychologists. As well, these two professions offer many of the mental health services offered outside the RHA. For example, general practitioners are often the first point of contact for people with a mental illness. We surveyed these two professions. We summarize the results of our two surveys in Appendix A.

Physicians
We arranged our survey with the assistance of the Alberta Medical Association (AMA). The AMA categorizes its members by sections; a section is an area of practice such as general practice, internal medicine, or general psychiatry. We selected 13 of these sections because they play a role in mental health. Broadly speaking, we targeted two groups of sections. Psychiatrists, child and adolescent psychiatrists, and general practitioners with a special interest in psychiatry comprise the mental health specialist group. The other ten sections we surveyed (e.g. emergency room practitioners, internists, and pediatricians) deal regularly with mental health patients. We conducted our survey electronically over the Internet.

We prepared a survey of 38 questions, vetting our questions with the Alberta Mental Health Board and Department of Health and Wellness. We conducted the survey in January 2008. We invited 3072 physicians to participate and 462 responded for a response rate of 15%. This response yields data accurate to within +/- 4.2% at a confidence level of 95%.

Psychologists
We arranged this survey with the assistance of the College of Alberta Psychologists. We prepared a survey of 32 questions. We conducted the survey in June 2008. A total of 2000 psychologists were invited to participate via a mail out request. Respondents replied by accessing a website and completing the survey online. 354 psychologists responded for a response rate of 17.7%. This response yields data accurate to within +/- 4.73% at a confidence level of 95%.

Component-by-component audit criteria

For each of our seven selected components, we created criteria to guide our work. Here are the criteria we applied throughout the audit.

Hospital-based programs
Hospital emergency rooms should be prepared for mental health cases.
There should be systems to monitor and act on length of stay and related measures.
There should be systems to plan inpatient discharge to facilitate successful transition.

Community-based programs
There should be systems to triage and intake mental health clients.
There should be systems to provide mental health crisis intervention.
There should be systems to assess mental health clients shortly after intake.
There should be systems to treat mental health clients in the community.
There should be systems to promote continuity of care on discharge.
Information systems should capture data completely, accurately, and on a timely basis.

Housing and supportive living
The RHA should have systems to determine the supply and demand for housing and supports for the mentally ill.
The RHA should collaborate with service providers to develop mental health housing and supports.
The RHA should have systems to ensure housing services for its clients are safe and appropriate.

There should be systems to link the mentally ill with housing service providers.

Concurrent disorders
The RHA should have strategies to assist clients with concurrent disorders.
RHA staff dealing with clients with concurrent mental health and substance abuse issues should have multi faceted assessment and intervention training.
The RHA should collaborate with AADAC and its funded agencies to offer an integrated and continuing treatment service delivery for clients with concurrent mental health and drug and alcohol issues.

Planning and reporting
The RHA's mental health planning should be consistent with the *Provincial Mental Health Plan* and indicate the strategies and activities necessary to achieve results.
Budgeting should be integrated with mental health planning so that planned strategies and activities are resourced.
The RHA's mental health reporting (both internal and external) should satisfy the accountability requirements for those reporting.
Mental health information systems should make summary information available to staff who need it.

Aboriginal mental health
The RHA should have strategies to address aboriginal mental health issues.
The RHA should have aboriginal mental health employees.
There should be systems to familiarize RHA staff with aboriginal cultural needs.
The RHA should have programs for aboriginals with mental health issues.
The RHA's information systems should, on a voluntary basis, record aboriginal ethnicity.
The RHA should collaborate with other service providers offering aboriginal mental health programs.

Suicide prevention
The RHA should have suicide prevention strategies for its region.
RHA staff working with mental health patients identified as being at risk of suicide should have risk assessment training.
The RHA should have suicide prevention programs.
The RHA should collaborate with external agencies, boards, and organizations that have established suicide support and prevention programs to provide an integrated service for clients at risk of or suffering from the impact of suicide.

Government of Alberta and Ministry Annual Reports

Performance reporting

Financial statements

Unqualified auditor's report

Our auditor's report on the Government of Alberta's consolidated financial statements for the year ended March 31, 2008 is unqualified.

We are satisfied that the transactions and activities we examined in financial statement audits complied with relevant legislative requirements. As auditors, we test only some transactions and activities, so we caution readers that it would be inappropriate to conclude that our testing would identify all transactions and activities that do not comply with the law.

We issued unqualified auditor's reports on ministry financial statements for the year ended March 31, 2008, with one exception.

Qualified opinions

We issued a qualified opinion on the Ministry of Environment's financial statements—see page 263. We did not express an opinion on the Climate Change and Emissions Management Fund—see page 262.

We issued a qualified audit opinion on the Olympic Oval/Anneau Olympique, operated by the University of Calgary—see page 236.

Crown-controlled SUCH sector organizations

The consolidated financial statements include the financial results of Crown-controlled SUCH sector organizations using the modified equity basis of accounting. SUCH is an acronym for schools, universities, colleges and hospitals, but the term is used to describe a much broader list of organizations, including school boards, technical institutes, regional health authorities, and other health boards.

In accordance with accounting standards, for the year ending March 31, 2009 the government will use line-by-line consolidation for SUCH sector organizations.

Under line-by-line consolidation, the government's capital assets would have been fully consolidated, so net assets at March 31, 2008 would have increased by approximately $12 billion.

Performance measures

One exception in our report on Measuring Up

We found one exception when we applied specified auditing procedures to the performance measures in *Measuring Up*. There was no data reported for the measure *Physical Condition of Learning Facilities—Schools in good, fair, or poor condition.* Infrastructure management was unable to provide complete data for schools in time for reporting in Measuring Up in June 2008. As a result, we could not complete our specified auditing procedures for this measure.

Exceptions in our reports for two ministries

We found no exceptions when we completed specified auditing procedures on the performance information in the 2007–2008 ministry annual reports for 18 ministries. However, our reports for two ministries (Advanced Education and Technology and Infrastructure and Transportation) noted exceptions. These exceptions are described in the sections for those ministries in this *Report.*

Advanced Education and Technology

Summary of our recommendations

The University of Alberta should:

- provide increased levels of detail on investments to the Investment Committee to facilitate the monitoring of the University's investments—see page 211.
- implement approval procedures for new investment vehicles—see page 211.

The University of Calgary should:

- improve the effectiveness of its decentralized control environment—see page 213
- improve controls over the approvals and documentation for journal entries—see page 217.
- improve controls over the approval of transactions for its internally managed investments—see page 221.
- comply with the *Post-Secondary Learning Act* by seeking approval of the Lieutenant Governor in Council before engaging in housing loan guarantee transactions—see page 222.

We repeated our recommendations that the University of Calgary improve controls over payroll functions—see page 216, and PeopleSoft security—see page 219.

The University of Lethbridge should improve its year-end processes to ensure the preparation of complete and accurate financial statements—see page 223.

The University of Lethbridge should:

- clearly define and communicate the financial research-management roles and responsibilities of Research Services, Financial Services, and Deans—see page 225.
- ensure that financial research policies are current and comprehensive—see page 227.
- maintain proper documentation for approving research accounts—see page 227.
- ensure that researchers, research administrators and Financial Services staff are aware of changes to financial policies and are properly trained to comply with the policies—see page 227.
- periodically report to the Board of Governors key information on financial risks in research management—see page 231.

Alberta's four universities, together with the Department of Advanced Education and Technology, should continue to work together to review the accounting treatment for the unfunded liability of the Universities Academic Pension Plan—see page 232.

The Alberta Heritage Foundation for Science and Engineering Research should implement our recommendation on IT control frameworks as described on page 51.

Our audit findings and recommendations

1. Effective monitoring of employers providing apprenticeship training—implemented

In our *2005–2006 Annual Report* (No. 23), we recommended that the Department of Advanced Education and Technology improve its monitoring of employers providing apprenticeship training. We also recommended on page 12 of that report, that the Department select which employers to visit based on the likelihood of identifying apprentice training opportunities and problems at worksites.

Our audit findings

The Department has processes to improve the accuracy of the database

Database accuracy—The Department reviewed its database of employers to identify and correct inaccuracies, and clarified instructions to field staff on how the classifications of active, inactive and out-of-business are to be used. We found substantially fewer errors than in prior years; the Department's ongoing processes to correct errors and maintain accurate information appear to be effective.

Records of prior employer visits are now available to all field staff

Recording visits to employers—The Department expanded its directions for field staff recording the results of employer visits, including documentation of compliance orders issued or other issues. The Department also tracks compliance orders on a new computer system, allowing staff to search for compliance orders for specific employers.

Department evaluates the quality of employer visits and achievement of program objectives

Evaluation of staff—The Department improved its evaluation of the effectiveness of staff carrying out employer visits. In addition to targets for the number of employers visited in a year, staff are also evaluated based on the number of new apprentices registered in the region. The Department has also added questions to its biennial survey of employers to evaluate the quality of service and information provided by staff during employer visits.

Criteria communicated to field staff for selecting employers to visit

Selecting employers to visit—The Department provided guidance to staff on selecting employers/worksites for visits. Staff are to give priority to following up on employers where compliance issues have been noted in the past, for which complaints have been received, employers identified who are not currently registered in the Department's employer database, and employers who have not been visited at least once during the past two years.

2. Entities that report to the Minister

2.1 University of Alberta

2.1.1 Improve investment controls

Recommendation No. 20

We recommend that the University of Alberta:

- **provide increased levels of detail on investments to the Investment Committee to facilitate the monitoring of the University's investments, and**
- **implement approval procedures for new investment vehicles.**

Background

Investments managed externally and internally

The University Investment Committee's (Committee) terms of reference mandate the periodic monitoring and reviews that the Committee should conduct over the University's short and long-term investments. The Committee has also developed and approved an overall set of principles and beliefs, mainly centered on the Unitized Endowment Pool (UEP). These principles state that external investment managers, who have the necessary resources and expertise, should manage the UEP, and that the Investment and Treasury Department may manage a small amount of residual cash.

University holds $170 million in ABCP

Recorded $41 million impairment

The University holds investments of approximately $170 million in asset-backed commercial paper (ABCP). Because of a weakening credit market since August 2007, the fair value of ABCP, both bank sponsored and non-bank sponsored, have fallen dramatically. Many non-bank sponsored ABCP is expected to be restructured into long-term variable rate notes that will be retired as the underlying assets in the conduit are liquidated. Consequently, the University estimated and recorded an impairment provision in the value of its investments (for non-endowed investments) totalling approximately $41 million (24.91% of the total cost base of its ABCP).

Criteria: the standards we used for our audit

The University should have appropriate governance processes, including monitoring and reporting investments at an appropriate level to ensure the risks to the University are maintained at a reasonably acceptable level.

Our audit findings

Investment committee only receives high-level information on the University's investments

The Investment and Treasury Department provides the Committee with a report that includes high level, summarized information of components of the University's investments along with a comparison of the overall return on the investments benchmarked to industry standards. The report also includes exceptions identified in the investment holdings from the investment policy. However, the report does not provide a more detailed listing of the University's investments to the Committee on a periodic basis. Without a periodic detailed review of the investment listing, the monitoring of the University's activities and holdings in relation to its investment policy may not be completed effectively. Without this listing, the Committee would have no opportunity to review and question the amount of investment in certain securities, the concentration in certain types of investments, and whether new investments are held, which may have a higher inherent risk associated with them than what was intended to be held under the Investment Policy.

Internally managed investments grew from $16 million to $310 million

In late 2007, the Investment Policy was changed to clearly define what investments should be managed by external investment managers or by the Investment and Treasury Department. We noted in discussions with the Investment and Treasury Department that in the past year, internal investment managers manages more short term funding. While investments managed internally were in accordance with the Investment Policy, the amount may be exceeding the levels contemplated in the Committee's document on its principles and beliefs, as short-term investments increased from $16 million by March 31, 2007 to $310 million by March 31, 2008.

No review and approval of new investments before investments are made

Finally, the Director of Investments and Treasury does not review and approve new types of investments or investments in organizations in which the University has not previously invested at the time the investment was purchased. Currently, a member of the Investment and Treasury Department enters into a transaction and another member of the Department approves the transaction informally. The Director completes a monthly review to consider all the investments held. We expect that this review would detect an investment that may have a higher potential inherent risk than may be acceptable to the University. However, the implementation of an initial approval would represent a more timely control and may prevent an inappropriate investment being made. This may also help the Investment and Treasury Department to identify early changes in market investment risks to allow periodic adjustments to the University's Investment Policy guidelines. The reporting of these risks to the Investment Committee would also facilitate improved risk management over the investment process.

Implications and risks if recommendation not implemented

Without prompt reviews and approvals at an appropriate level of detail, the University may assume risks outside of the range deemed acceptable by the University's Board of Governors.

2.1.2 Internal control systems recommendation—implemented

Background

In our *2002–2003 Annual Report* (No. 34—page 235), we recommended that the University of Alberta improve its system of internal control. Last year, we commented that the University still had to fix the remaining gaps that focused on internal controls specific to authorizing payment for invoices, setting up employees on the payroll system, implementing the new capital asset module, and finishing implementing the business resumption plan and disaster recovery plan.

University has substantially dealt with control deficiencies noted in 2002-2003

The University implemented the recommendation by substantially dealing with the control deficiencies and improving the control environment from when the recommendation was first made. Also, faculties and centralized processing units have completed financial control self-assessment checklists to learn what controls and processes they have in place and who performs those controls and processes. The University created a new position and hired a new manager to oversee the control self-assessment processes. We will assess the impact of the assessment when we assess the adequacy, and test the operating effectiveness, of the Universities various business processes and controls in future audits.

2.2 University of Calgary

2.2.1 Improving the University's decentralized control environment

Recommendation No. 21

We recommend that the University of Calgary improve the effectiveness of its control environment by:

- **assessing whether the current mix of centralized and decentralized controls is appropriate to meet its business needs.**
- **defining clear roles, responsibilities and accountabilities for control systems' design, implementation, and monitoring.**
- **documenting its decentralized control environment and implementing training programs to ensure those responsible for business processes have adequate knowledge to perform their duties.**
- **monitoring decentralized controls to ensure processes operate effectively.**

Background

Effective control environment important for informed decision making

The control environment reflects management's philosophy, attitude and demonstrated commitment to establishing a positive atmosphere for implementing well-controlled business operations. The effectiveness of the control environment strongly influences the timeliness and accuracy of management information to meet management's decision-making responsibilities as well as the reliability of information presented to external parties.

Corporate memory loss and decentralized administration are issues

The University's 2008–2012 Business Plan identifies the rebuilding of financial capacity and the loss of corporate memory as major issues. It also recognizes that the University's decentralized administrative model compounds the problem of adequately supporting faculties and units during a time of high employee turnover and a lack of central resources to provide support.

Criteria: the standards we used for our audit

The University's control environment should ensure that:

- business processes are efficient and result in timely and accurate financial and non-financial information.
- employees have adequate knowledge and are properly trained to perform their duties.
- controls are well designed, understood, documented, assessed for adequacy, and centrally monitored for effectiveness.
- roles and responsibilities are defined to ensure controls are properly implemented, improved, maintained, and monitored.

Our audit findings

Our review of the University's decentralized control environment found that:

- roles and accountabilities are not adequately defined.
- the control environment is not sufficiently documented and training is inadequate to ensure employees carry out their duties correctly.
- central monitoring of decentralized controls is insufficient to ensure controls are consistently applied throughout the University and business processes are operating efficiently.

Decentralized processes require central oversight

Balance between centralized and decentralized systems of controls—Many of the University's key internal controls are decentralized among the various departments and faculties. Given the size and complexity of the University's operations, it needs to assess its current control environment to decide on the appropriate mix of decentralized and centralized controls for the efficient conduct of its business. For the decentralized environment to operate effectively, the University requires adequate centralized oversight and monitoring to ensure all its business processes are properly followed, and that information reported to Financial Services is accurate and complete.

Current environment impedes timely and accurate financial information

University's decentralized controls not functioning effectively—The existing decentralized control environment currently impairs Financial Service's ability to efficiently produce timely, accurate financial information throughout the year and financial statements at year-end. During the year, Research and Trust Accounting and Financial Services spent significant time investigating, compiling, and correcting financial reporting errors that could have been avoided with properly designed and implemented preventative controls at the business-unit level. The time spent correcting preventable errors reduced the sustainability of business processes, diverting resources from regular duties to correct the errors. In addition, management and researchers did not have reliable financial information throughout the year to manage accounts on a daily basis because extensive corrections occurred as part of year-end activities.

Lack of central monitoring prevents detecting errors

Central Payroll management agreed that various controls over the appropriateness and correctness of amounts paid to employees should be implemented and monitored. But they felt it was not their job to do so. The inadequacy of decentralized controls throughout the organization and lack of monitoring at central Payroll have consequences throughout the University. For example, the Research and Trust Accounting Department had to develop time-consuming manual review processes and direct additional resources to solve problems stemming from incorrectly coded payroll amounts. We believe that poorly designed preventative controls in the payroll information system resulted in an increased burden on Financial Services and Research and Trust staff to correct financial-statement errors by manual review. See section 2.2.2—*Improving payroll controls.*

Inadequate training of decentralized financial employees

Controls over general ledger transactions are spread throughout the University's departments and faculties. Decentralized financial employees can post journal entries and set parameters for automated general ledger transactions without necessarily having adequate training or understanding of the impact of their entries on the financial statements. See section 2.2.3—*Improving controls over journal entries.*

Implications and risks if recommendation not implemented

Without an adequate control environment, the University may:

- experience inefficient and unsustainable business processes that may result in fraud and error, and increased costs.
- make business decisions on incomplete or inaccurate financial and non-financial information.

2.2.2 Improving payroll controls—recommendation repeated

Recommendation

We again recommend that the University of Calgary improve controls over payroll functions.

Background

Management agreed to improve payroll controls

Last year, the University implemented the payroll and human resource module in PeopleSoft. We recommended in our *2006–2007 Annual Report (*vol. 2, page 12) that the University improve controls over payroll as terminated employees were overpaid and staff had access to incompatible functions. Management agreed with the recommendation and planned to improve controls and processes in the payroll area by the end of the 2008 fiscal year.

We now repeat the recommendation because the University did not sufficiently mitigate the risks of incorrect payroll this past year.

Criteria: the standards we used for our audit

The University should have adequate controls to ensure that it approves and properly monitors new employees, terminations, and job-change information. In addition, salary and benefits paid to employees should be supported by appropriate documentation.

Our audit findings

University made insufficient progress

Although management has implemented review processes for payroll exception-reporting and developed new termination processes, it has not sufficiently improved controls over new employees and system access. We also found additional control weaknesses with significant implications for other University departments, and for the financial statements. Section 2.2.1 describes how the decentralized nature of payroll controls contributes to institution-wide, decentralized control weaknesses, inefficient and unsustainable business processes, and financial-reporting errors.

We identified the following areas that still need improvement:

a. Improve job-change controls

Errors in frequent updates to salary cost allocations

Control weaknesses in salary coding attributable to job changes when researchers start, complete, join, or work on multiple projects with varying start and end dates, are a significant risk to the accuracy and reliability of the University's financial statements. The Research and Trust Accounting Department investigated over-expended research projects and identified $6.4 million in correcting entries. We found the majority of the entries stemmed from salary amounts processed by Payroll to the wrong research projects.

b. Improve termination controls

Termination controls not monitored

While Central Payroll has developed new termination processes to end salaries, collect access cards and secure IDs, and promptly remove system access, it believes it is not responsible to monitor if faculties and departments implement and continue to use the new termination procedures. The University has not properly defined the Central Payroll's accountabilities and its role as monitor of the decentralized payroll controls.

c. Improve new-employee controls

Information entered not reviewed and approved

For new salaried employees, the form used to enter new hire information into the payroll module is not adequately restricted to hiring managers, faculty/department supervisors and authorized Human Resources staff. And there was no documentation to show that Faculty and Department supervisors had reviewed and appropriately approved the new-hire forms. In addition, Human Resources staff do not verify the information entered into the Payroll module, nor do they match it with approved supporting documentation, such as an offer letter.

Excessive access to payroll system

For new hourly employees, 291 people have access to create hourly employees in the Payroll module and enter timesheet information. These two functions are not subject to independent supervisor review and approvals.

d. Improve documentation controls

Inadequate support for payroll payments

Of 99 sampled payroll payments during the first three quarters of the 2008 fiscal year, the University could not provide adequate support for 26 payments to hourly, monthly and semi-monthly paid employees. For the amounts the University could support, we found no errors; however, we could not complete our testing because the University did not keep documentation for the remaining 26 payments.

Implications and risks if recommendation not implemented

Overpayments and errors can occur

Without an adequate control environment over payroll processes, there is increased risk for incorrect payroll payments, misappropriation of assets, and misstatements in financial statements.

2.2.3 Improving controls over journal entries

Recommendation

We recommend that the University of Calgary improve controls over the approvals and documentation for journal entries.

Background

Journal entries are processed at Financial Services, faculties, departments and business units. In our *2006–2007 Annual Report*, Volume 2—page 17, we reported on management's special investigation of journal entries processed by an employee at Campus Infrastructure which were found to be inappropriate.

Criteria: the standards we used for our audit

The University should have adequate controls to ensure journal-entry transactions are correct, reviewed, and substantiated by sufficient supporting documentation.

Our audit findings

Decentralized control problems persist

By the end of March 2008, the University had not finished its policy defining roles and responsibilities for creating and approving journal entries or the documentation required to support journal entries. Section 2.2.1 highlights the decentralized nature of general ledger controls as contributing to institution-wide, decentralized control weaknesses, inefficient and unsustainable business processes, and financial-reporting errors.

We identified $2.6 million in errors

Significant journal-entry errors occurred this year. Decentralized staff—with insufficient financial-statement knowledge—have general-ledger access to approve journal entries. We sampled general ledger transactions and found 5 financial statements errors totalling $2.6 million originating from journal entries. These errors originally resulted in a $600,000 overstatement of net income. The approvers of these journal entries were unaware the entries created financial-statement errors.

Management identified further $6.9 million in errors

When management learned of these errors, it investigated the cumulative effect of similar erroneous journal entries. It found and corrected prior-year errors totalling $6.9 million. We reviewed the results of management's investigation and concluded that it was appropriate.

The University's Management Processes and Controls unit completed a review of journal-entry processes at Financial Services. We agree with the Unit's recommendations to improve journal-entry processes.

Implications and risks if recommendation not implemented

Without adequate controls over journal entries, inappropriate, erroneous, and fraudulent entries could be processed and cause misstatements in financial statements.

2.2.4 PeopleSoft security—recommendation repeated

We made this recommendation in our *2005–2006 Annual Report*, Volume 2—page 24, and repeated it in our *2006–2007 Annual Report*, Volume 2—page 13. For the second time, we have repeated this recommendation because the University still did not take sufficient action to mitigate PeopleSoft security risks this past year.

Recommendation No. 22

We again recommend that the University of Calgary improve controls in the PeopleSoft system by:

- **finalizing and implementing the security policy and the security design document, and**
- **ensuring that user access privileges are consistent with both the user's business requirements and the security policy.**

Background

In April 2004, the University started a three-year project to move several critical business and financial processes to PeopleSoft, an ERP (see glossary). In 2005, the general ledger and materials management modules moved into PeopleSoft, and the University started writing a security design document to outline the process and define the rules for granting users' access to PeopleSoft. In 2006, the payroll and human resources modules were moved into PeopleSoft, followed by the student administration module in 2007.

Criteria: the standards we used for our audit

The University should reduce the risk of unauthorized or inappropriate access to its programs and data by:

- implementing a comprehensive security policy and maintaining an up-to-date security design framework for the PeopleSoft control environment.
- controlling access to programs and data by defining and enforcing procedures to identify, authenticate and authorize the use of the University's systems.
- establishing procedures to ensure that only authorized changes are made to user accounts (additions, deletions, changes) and that they are made promptly.
- implementing an effective control process to periodically review the appropriateness of user access rights.

Our audit findings

What the University did

Information Technology management made progress in fixing the issues that led to our initial recommendation. However, the fixes have not adequately mitigated security risks. We repeated the recommendation because it is taking the University excessive time to implement adequate security controls as the

PeopleSoft system handles critical business processes and hosts confidential student, financial, and personal data. The University made the following improvements:

- the University developed and implemented a University-wide IT security policy. The PeopleSoft application and its users are expected to follow this.
- the Information Technology department implemented a process, in conjunction with Human Resources, to run a daily query to identify terminated employees. The results trigger a manual process to remove terminated employees' access.
- since the completion of our audit in March 2008, the University has also removed the ability to change historical actions in PeopleSoft from the majority of users.

What remains

Below are the main improvements the University must still make to implement the recommendation. The University must:

- implement a process to regularly assess, identify, and remediate security vulnerabilities in the PeopleSoft system.
- develop and communicate security responsibilities for PeopleSoft users and administrators.
- develop and implement security design documents for all modules in PeopleSoft, and then ensure they are consistently followed.
- develop and implement procedures to restrict user and privileged access (administrators, developers, and database administrators) within the system whenever possible.
- in conjunction with all business units, develop and implement a security matrix and control process to regularly review and validate all PeopleSoft end user and privileged access.
- implement a monitoring and review control process of actions or changes made in PeopleSoft with privileged user or administrative accounts.
- in conjunction with Human Resources, implement an effective employment transfer/job change control process to ensure that employees only have the PeopleSoft access needed for their current job requirements.

Implications and risks if recommendation not implemented

Weak access controls to, and within, PeopleSoft may result in unauthorized access to confidential data, entry of an unauthorized transaction, and the accidental or deliberate destruction or alteration of data. Poor controls may also lead to the unauthorized release of confidential student or financial information. Therefore, the University may not be able to rely on the completeness, accuracy, or validity of the data produced by PeopleSoft.

2.2.5 Improving controls over investments

Recommendation

We recommend that the University of Calgary improve controls over the approvals of transactions for its internally managed investments.

Background

Investments managed externally and internally

The University's Treasury and Investments unit is responsible for its banking function and also invests the University's cash in short-term money market investments. The majority of the University's investments are managed by external investment managers. Depending on the University's operating cycle, the Treasury and Investments unit can invest as much as $110 million of the University's working capital in short-term money market investments. The University's investment committee sets parameters for management of internally managed net assets in short-term funds. We reviewed the control system for money market investments transacted by the Treasury and Investments unit.

University holds $67.5 million in ABCP

Recorded $16.8 million impairment

At March 31, 2008, the University held approximately $67.5 million in asset backed commercial paper (ABCP). Because of a weakening credit market since August 2007, the fair value of ABCP, both bank sponsored and non-bank sponsored have fallen dramatically. Many non-bank sponsored ABCP is expected to be restructured into long-term variable rate notes that will be retired as the underlying assets in the conduit are liquidated. Consequently, the University estimated and recorded an impairment provision in the value of its investments (for non-endowed investments) totalling approximately $16.8 million (24.89% of the total cost base of its ABCP).

Criteria: the standards we used for our audit

The University should have appropriate controls for the documented monitoring and approval of its internally managed investments.

Our audit findings

Committee reviews investments

The Board Investment Committee reviews a detailed listing of short-term working capital investments and ensures these investments conform to the University of Calgary's Investment Policy. Through this process, the Investment Committee was aware of the trusts the University had invested in which subsequent to year end had impairment provisions booked against it because they were non-bank sponsored ABCP. At the time ABCP investments were purchased, the Treasury and Investments unit complied with the Investment Committee policy because these investments were then rated R1 by the Dominion Bonding Rating Services.

Formal review and approval of individual transactions needed

The Treasury and Investments Senior Banking Officer researches the quality of investment instruments available for purchase, prepares the documentation and completes the purchase transaction for the acquisition of money market investments. While the Treasury and Investments unit informally monitors these transactions, evidence supporting the timely monitoring and approval of these transactions was not documented or available. Good controls over investments should be evidenced by documentation to show that the Treasury and Investments unit had promptly reviewed and approved investment transactions. This formal process would provide senior management assurance that investment transactions are independently reviewed, promptly approved and comply with the investment policy.

Implications and risks if recommendation not implemented

Without good processes to monitor, approve, review investment transactions and document controls, the University may not detect inappropriate investment transactions.

2.2.6 Complying with legislation

Recommendation

We recommend that the University of Calgary comply with the *Post-Secondary Learning Act* by seeking approval of the Lieutenant Governor in Council before engaging in housing-loan-guarantee transactions.

Background

University offered housing loan guarantees totalling $3.9 million

In early 2007, the University began offering housing-loan guarantees to attract faculty and senior administrative staff to the University, with some agreements allowing for interest and principal forgiveness. Housing-loan guarantees offered ranged up to $1 million plus interest benefits. At March 31, 2008, the largest guarantee provided for an employee was $500,000 with a total of $3.9 million in housing-loan guarantees provided by the University.

Criteria: the standards we used for our audit

The University should have an effective process to comply with the *Post-Secondary Learning Act*.

Our audit findings

Lieutenant Governor in Council did not approve guarantees, contrary to law

The University issued housing loan guarantees without prior approval from the Lieutenant Governor in Council. This violates section 74(2) of the *Post-Secondary Learning Act*, which states a Board may not guarantee the obligations of another person without the prior approval of the Lieutenant Governor in Council. In January 2008, senior management wrote to the Deputy Minister of Advanced Education and Technology and advised that the Board had updated its policy to increase limits of loans the University could guarantee. In response, the Deputy Minister recommended the University discuss the matter with the Minister of Advanced Education and Technology and take steps to comply with legislation. In April 2008, senior management wrote to the Minister to seek this approval. As of June 16, 2008, the University had not obtained the appropriate approvals to provide these guarantees.

Implications and risks if recommendation not implemented

Without an effective process to ensure compliance with the *Post-Secondary Learning Act* the University may breach the law and face criticism by regulators.

2.2.7 Campus security services—Implemented

Recommendation implemented

In our *2005–2006 Annual Report* (Vol. 2—page 26), we recommended that the University of Calgary Campus Security improve processes to:

- track open investigative files by key duties and responsibilities.
- record detailed evidence on investigative files, particularly in cases of arrest or detention.

The University of Calgary implemented our recommendation by:

- modifying their computer system that allows them to better monitor the incident reports requiring follow-up and for ensuring the follow-up work is completed.
- maintaining a comprehensive log file that allows management to monitor the number of persons detained or arrested, the reasons for the detention, the length of time a person was in CSS's custody, and the response time of Calgary Police Services.

2.3 University of Lethbridge

2.3.1 Improving the University's financial processes

Recommendation

We recommend that the University of Lethbridge improve its year-end processes to ensure the preparation of complete and accurate financial statements.

Background

The University is a large and complex operation with involvement in a wide range of areas that contain complex agreements and regulatory requirements.

Criteria: the standards we used for our audit

The University should have effective processes to produce timely and accurate financial statements. This includes sufficient staff resources, technical skills relating to generally accepted accounting principles for not-for-profit organizations, and automated processes to enable an efficient completion of the year-end process.

Our audit findings

Financial statements late and required significant changes

We identified many adjustments that the financial statements needed after the audit started. We received the first draft financial statements on May 4, 2008, but did not receive the final financial statements for the year ended March 31, 2008 until June 18, 2008. In addition, the University's processes did not allow Financial Services to promptly identify and review the accounting treatment of certain complex issues. For example, in October 2007 the University entered into three separate, but related contracts for one building:

- the first contract was to lease the building for five years.
- the second contract was to receive the building as a donation from the lessor over the five-year lease.
- the third contract was to receive the building as a donation at the end of the lease.

Financial Services did not find out about these contracts until the year-end processes and then did not properly analyse their impact on the financial statements; they required several adjustments to the financial statements.

Implications and risks if recommendation not implemented

Inaccurate financial information

Interim reporting may be inaccurate due to inappropriate accounting for complex transactions. This may result in significant variances between interim reports and the audited financial statements.

2.3.2 University of Lethbridge financial controls for managing research

2.3.2.1 Summary

Assessed financial-control systems to manage research

At the request of management of the University of Lethbridge, we examined the University's financial-control systems for managing research to assess if they are adequate, designed well, and operating effectively. The review focused on financial-control systems—not all aspects of the University's research-management systems.

Complex research environment

The University has various policies, procedures and controls systems to administer routine research. Routine research comprises projects funded from traditional sources, such as grants from the federal government's research agencies. Over time, research management at the University has become increasingly complex. Grants involving networks of researchers, institutional grants, and funds transferred from other Universities are examples of complex arrangements for non-routine research projects funded by non-traditional sources. To assess the financial management of research funds, we had to understand the financial roles and responsibilities of Research Services, Financial Services, the Deans and University administration.

Good controls for routine research

Inadequate controls for non-routine research three recommendations

We found that the University's financial-control systems effectively manage routine research. Once a routine grant has been properly set up, there are good controls over approving research expenses and to prevent overspending. However, these systems are inadequate to administer complex grants and non-routine research projects. We made three recommendations for the University to significantly improve the financial control systems:

1. clearly define and communicate the financial research-management roles and responsibilities of Research Services, Financial Services and the Deans.
2. ensure all financial research policies are current and comprehensive; maintain proper documentation for approving research accounts; ensure researchers, research administrators, and Financial Services staff know of changes to policies and are properly trained to comply with them.
3. ensure management periodically reports to the Board of Governors key information on financial risks in research management.

Why the recommendations matter

Without well-designed financial controls and processes to enforce compliance, the University's research initiatives may not achieve their goals cost-effectively. Weaknesses in the research-control environment may cause funding agencies to reduce or stop funding for University research.

2.3.2.2 Clearly defined financial research roles and responsibilities

Recommendation

We recommend that the University of Lethbridge clearly define and communicate the financial research-management roles and responsibilities of Research Services, Financial Services, and Deans.

Background

Administrative support given by Research Services

Research Services and faculty research offices give administrative support to researchers. Research Services advises and offers support on funding applications and proposals when researchers make requests within a reasonable time before the due date of an application. These timelines are available on the Research Services website. Research Services also reviews contracts to confirm that they meet University policies.

Financial Services monitors

Financial Services sets up research accounts after receiving the documentation and approvals from Research Services. It monitors them after awards are made, and applies operating procedures to ensure compliance with requirements of research sponsors.

Criteria: the standards we used for our audit

The University and faculties should have clearly defined financial roles, responsibilities and accountabilities for making research policy, approving and monitoring research, administering research funds, and supporting researchers. The responsibilities and accountabilities should be clearly communicated to all staff administering research.

Our audit findings

Criteria partly met

The University partly met the criteria. Although its general research policy explains roles, it has not clearly defined the financial roles, responsibilities, or accountabilities of key contributors to research management. The responsibilities and accountabilities of faculties, Deans, Financial Services and Research Services are unclear.

Unclear roles in research policies

Unclear definition of roles and responsibilities in research policies—a general research policy explains the roles of the faculty, research associates and assistants, visiting scholars, administration, controller's office and research support. But the policy as noted further in section 2.3.2.3 below has gaps and is outdated: it was last updated in 1992. For example, the policy states that the Vice President Academic—not the Vice President Research—is responsible for the administration and coordination of research; the role and responsibilities of the Vice President Research are not defined. Neither is role of the Dean, who in practice is the officer overseeing research. A research manual outlines many research policies and procedures. Specific policies exist to cover travel, over-expenditures, equipment quotes and approval of expenses. But policies don't identify who should administer them.

Role, responsibilities, accountabilities not well-defined or -understood

Lack of clarity of roles, responsibilities and accountabilities—a significant lack of well-defined financial roles and responsibilities pervades all areas of research, including Research Services, Financial Services, and faculties. Conflicts have arisen between Financial Services, researchers, and Research Services.

External review confirmed problems

The University's Office of Research Services commissioned an external review of its operations. The resulting December 2007 report confirmed a lack of clarity in the roles, responsibilities and reporting relationships in Research Services. The review also concluded that Research Services performs a facilitative role, while Financial Services has a more control-orientated function. When they jointly administer research, miscommunication and conflict can occur.

Financial Services monitors compliance

The University's general research policy defines the approval processes for each type of research proposal administered by Research Services. Monitoring compliance with University policies lies mainly with Financial Services. The job description of the research accountant in Financial Services confirms this. But roles and responsibilities are not well communicated. Neither researchers nor Research Services properly understand the role of the research accountant employed by Financial Services.

But conflicts occur because Financial Services lacks authority to monitor

None of the University's policies, including its general research policy, specify that Financial Services is responsible for monitoring research accounts or give it authority to enforce compliance with research policies. The Deans' involvement in monitoring research is limited to approving expense claims from researchers in their department. The Vice President Research is not actively involved in monitoring research financial controls but may help resolve disputes between Financial Services and a researcher or Dean. Financial Services staff report tensions and conflicts with researchers when they try to enforce controls on researchers' projects.

Implications and risks if recommendation not implemented

Without a clear definition and communication of roles, responsibilities and accountabilities of the key contributors to research activities, conflicts may arise and research controls may fail. And research funding agencies may reduce or stop funding University research projects.

2.3.2.3 Clear and complete research policies

Recommendation

We recommend that the University of Lethbridge improve systems to ensure that:

- **financial research policies are current and comprehensive.**
- **proper documentation is maintained for approving research accounts.**
- **researchers, research administrators and Financial Services staff are aware of changes to financial policies and are properly trained to comply with the policies.**

Background

Policies and processes in place

The University has policies and processes for approving research proposals, managing projects, approving overspending in research accounts, and recording and reporting research financial information to funding agencies and management.

Research Services administers some aspects of policies, secures proper documentation and seeks approval before opening a research account. For externally funded research proposals prepared primarily by researchers, the policy requires proposals to be approved by the Dean, Department Chair and the Vice President Research.

Policy for over-expenditures

The University has a policy to administer research accounts where research expenses are projected to exceed funding. The policy has reasonable limits for over-expenditures (20% of next year's grant instalment to a maximum of $20,000) and also allows for special circumstances where more funds are required. Both the Dean and the Vice President Research must approve the over-expenditure. Financial Services will not let individual funds be overspent without proper approval.

Criteria: the standards we used for our audit

The University should ensure that:

- research policies provide clear and comprehensive guidance to faculties and researchers.
- adequately designed systems exist for approving research accounts and enforcing compliance with policies and requirements of research funding agencies.
- all researchers, research administrators and Financial Services staff are aware of and can access all relevant policies, and are properly trained to comply with policies.

Our audit findings

Criteria partly met

The University partly met the criteria. Sampled research expenses were properly authorized and eligible for funding under grant agreements. Research policies exist to cover approval of expenses and proposals, overspending on research accounts, and recovery of overhead costs, but many need to be updated and improved. We found deviations from the current policies. Research Services said that current policies don't apply to the deviations because they were non-routine research. Current research policies do not define non-routine research or explain how the University should administer these research accounts. Scheduled internal training for researchers, research administrators and Financial Services staff was not maintained.

Some policies incomplete, outdated and widely interpreted

Vague, outdated and incomplete policies—policies exist for segregation of duties within the purchasing and receiving departments and for the approval of expenses. Financial Services monitored research expenses to confirm they were properly authorized by a person at a higher level than the person who requested the reimbursement. However, some policies are vague and have lead to inconsistencies when applied. For example, the University's overhead policy sets a rate for recovering overhead costs from projects. The policy also gives the Vice President Research the discretion to lower the overhead charge to zero. The overhead charged to research projects ranges from 0 to 40%. As a result, the University may not adequately recover overhead costs and may fall short of recoveries it had planned on. The overhead policy does not explain when recovery of overhead costs may be waived.

No regular review of policies

Some policies are not current. The University's general research policy was last updated in 1992. The University recently started updating its overhead policy, but it does not review all policies regularly. It has not finished implementing a policy for administering internal research funds. The existing general research policy has gaps—it does not define what non-routine research is or how the University should administer these research funds.

Non-routine projects hard to administer

Systems for approving projects—the University designed policies and procedures for routine research grants. Staff administering research had difficulty applying them to non-routine projects and contracts. The exceptions we found were for non-routine projects, especially for grants and contracts where approval processes deviated from current policy. The University needs to update policies and procedures, in particular for managing non-routine projects.

Examples of deviations from policies

The following examples (confirmed by management as non-routine research transactions) illustrate deviations from current policies. They also confirm that the University did not maintain adequate documentation to show proper approvals and monitoring.

- Of 12 externally funded projects tested, 9 had no research grant proposal approvals documented. The current policy states that all research proposals require approvals of the Dean, Department Chair and Vice President Research. In another sample for a $1.5-million externally funded institutional research-capacity grant, the University's grant proposal was signed by only its President. Nothing on file explained why the University's approval process—requiring the Dean, Department Chair and Vice President Research to approve the proposal—was not followed. Management later told us that the funding agency specifically required the approval of the President and gave us documentation confirming this.
- For three internally funded projects, no evidence showed that they met the University policy requiring the Research Committee, Vice President Academic and the President to approve them.
- In 10 of 20 funds sampled, the policy for opening either an internally or externally funded research account was not followed. For example, the documentation for authorizing to open an account, and proof of committee approval on research and animal subjects was missing. In addition, the lack of an approved grant proposal on file was the most frequent policy violation.
- In a sample of overspent research accounts, two requests for overspending did not have the approvals the policy required. One did not have the signatures of the Dean and Department Chair. The other did not have the signature of the Department Chair.

Exceptions for non-routine research

The Vice President Research confirmed that these exceptions were for non-routine research projects (mainly institutional and internal grants) and therefore not subject to the current policies. However, no documentation was on each file to show that appropriate approvals and monitoring took place.

Good controls over approving research expenses

Inconsistent interpretation and application of policies

Monitoring compliance processes—we saw no cases where spending on a project started before a research account was opened or a sponsor had approved a grant award. Testing found no cases where expenses charged against research grants were not permitted by funding agencies. Also, there were no cases where the signing authorities' policy (based on the principle of one-over-one approval of research reimbursement expenditures) was not followed. In addition, Financial Services reviewed financial information to ensure compliance with the University's signing authority policy. However, staff monitoring compliance with policies had trouble enforcing them because policies are inconsistently interpreted. In some cases, Research Services stated that policies did not apply because they were non-routine projects. As a result, policies are inconsistently applied. Despite the issues, Financial Service staff were generally effective in applying financial controls over the projects.

Process defined to open and maintain accounts

Financial Services relies on Research Services to properly administer research from the proposal stage until the authorization to open a research account is provided. Research Services maintains files on each research grant or contract and administers the documentation for approvals. Financial Services receives from Research Services the appropriate documentation to open research accounts.

Approval process not followed

For one file, the Vice President Research asked Financial Services to open an account. There was no documentation in the fund file (except for an account number and balance) to explain why the account was opened and who had approved it. Current policy for approving the account was not followed. Financial Services staff said they cannot enforce compliance with policies when Research Services considers a research project to be unusual, "one-off," or non-routine. For the one exception, Financial Services sought further explanations from the Vice President Research to confirm the approval of account.

Missing information on files

Financial Services appropriately monitored budgets based on the requirements of the funding agencies—on an aggregate-budget basis or a budget-component basis. One of the 20 files had no budget information, and other documentation, such as the application and research proposal, was also missing. The account was not overspent. Again, Research Services said this account was non-routine because it related to a transfer of funds from another institution.

Lack of training on policies

Awareness of, and access to, all relevant policies—Research Services administrators give advice on policies to researchers. All researchers have access to and are aware of policies on the University's website. However, researchers don't have to show that they have read and understood the policies. All new researchers are supposed to attend training sessions on research policies, guidelines and expectations. The University used to schedule training sessions to promote awareness of changes to policies and updates in controls. But the sessions were poorly attended, and the University has not investigated how to improve attendance. Researchers are supposed to learn on the job, with minimal additional guidance. Scheduled internal training programs to provide interpretative guidance on policies were not evident for current researchers. Also, there are no scheduled internal training sessions for research administrators in Research Services and Financial Services staff.

Implications and risks if recommendation not implemented

Without good account-approval processes, clear and comprehensive policies, and training of staff, controls over research may fail and the University may lose funding if research sponsors' needs are not met.

2.3.2.4 Periodic reporting to the Board of Governors on financial risks

Recommendation

We recommend that University of Lethbridge management periodically report to the Board of Governors key information on financial risks in research management.

Criteria: the standards we used for our audit

The University should have effective processes to periodically report key information on financial risks in research management to the Board of Governors.

Our audit findings

Criteria partly met

The University partly met the criteria.

Information systems deliver timely and accurate information

Researchers are satisfied with the web-based financial reporting systems at the University, which deliver timely and accurate information. Researchers report progress on their research accounts to funding agencies. Financial Services prepares final and interim financial reports showing use of funds and sends them to funding agencies.

Key research information for Board lacking

The President meets weekly with the vice presidents to discuss risks and other key information. The Board routinely receives aggregated financial information on teaching, research and ancillary operations activities so it can assess the University's overall performance. But minutes of Board of Governors meetings and discussions with research management confirm that the Board does not regularly receive key information on financial risks in research management. For example, the Board did not get specific information on commitments of contributors to match funding of research agencies on large-scale research projects. As a result, the Board may not know some financial risks in research management.

Deficient process to assess risks and inform Board

Here is an example showing that the process to assess risks of matching funds and report the risks to the Board is deficient. For one grant for a group of projects, the University sought funding from a federal government granting agency. The University represented that it expected funding to be matched by contributions from an existing Government of Alberta grant program, which had previously matched funds for similar grants. However, the University did not have an agreement with Government of Alberta to confirm its commitment to match funds. After the federal government paid its grant, the University was unsuccessful in securing matching funds from the Government of Alberta. As a result, the University had an estimated $700,000 shortfall and had to fund the project internally. The Board of Governors was not informed of the risk that one of the grantors may not pay the matching contributions. After management learned of the shortfall, it obtained Board approval to use internal funds to match contributions of the granting agency.

Implications and risks if recommendation not implemented

The University's Board of Governors may not know the key risks in research management. Without good information, the Board cannot properly assess if the risks are adequately managed.

2.4 Review accounting treatment for Universities Academic Pension Plan for all universities

Recommendation No. 23

We recommend that the four Alberta universities continue to work together—and with the Department of Advanced Education and Technology—to review the accounting treatment for the unfunded liability of the Universities Academic Pension Plan.

Background

Universities participate in pension plan

The Universities participate, together with the Banff Centre, in the Universities Academic Pension Plan (the Plan). The Plan is a registered, defined-benefit pension plan that pays retirement, disability, spousal/survivor, and termination benefits to eligible members or their eligible survivors.

Plan deficiencies and funding arrangements

The Plan's financial statements of December 31, 2007 reported an unfunded liability of $535.8 million at December 2007—$501.3 million for pre-1992 and

$34.5 million for post-1991. The unfunded liability for service before January 1, 1992 is financed by additional contributions from the Province of Alberta, employers and employees. The Province pays 1.25% of salary and the balance of the required contributions is equally split between employees and employers. The employers and employees are equally responsible for the post-1991 liability. The Department of Finance and Enterprise records the government's share of the liability.

Last year, universities had inconsistent information on Plan valuation and their liability

Last year, there were four different valuations for the Plan: from the Plan administrators, the Department of Finance and Enterprise, the University of Alberta and the University of Calgary. As a result, the universities did not have consistent information to determine their respective shares of the unfunded liability, and therefore did not record the liability in their financial statements. The Universities recorded in the financial statements the total amount paid during the year to fund the benefits promised instead of the total liability for retirement benefits outstanding. We believe that the universities should work together to reach a common approach to accounting for the liability and estimating their respective share of the liability.

Criteria: the standards we used for our audit

The universities should provide relevant and useful information in their financial statements.

Our audit findings

Consistent information this year

The Department of Advanced Education and Technology worked with the universities to coordinate the actuarial valuation of the unfunded liability for the plan. The table below sets out the information on the actuarial valuation[1] of the unfunded liability at March 31, 2008 based on accounting standards for not-for-profit organizations (CICA 3461) and accounting standards for public sector organizations (PSAB 3250). A difference arises between the standards as they use a different estimate of a discount rate for pension liabilities. The allocation between universities is based on a percentage of payroll, consistent with the ongoing operation of the Plan, and the basis on which universities contribute to it.

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[1] Actuarial valuations by Mercer (Canada) Limited dated April 16, 2008.

	Percent of total Payroll basis	Not-for-profit Accounting Standards (millions)			Public Sector Accounting Standards (millions)		
		Pre-1992	Post-1991	Total	Pre-1992	Post-1991	Total
University of Alberta	49.1%	106.55	70.25	176.80	85.15	28.38	113.53
University of Calgary	35.9%	77.91	51.36	129.27	62.25	20.74	82.99
University of Lethbridge	8.8%	19.1	12.59	31.69	15.26	5.08	20.34
Athabasca University	4.8%	10.42	6.87	17.29	8.32	2.77	11.09
Banff Centre	1.3%	2.82	1.86	4.68	2.25	0.75	3.00
Trustee's Office	0.1%	0.22	0.14	0.36	0.17	0.06	0.23
Sub-total		217.02	143.07	360.09	173.4	57.78	231.18
Government share		252.73	0	252.73	226.41	0	226.41
Employees share		217.02	143.07	360.09	173.39	57.78	231.17
Total		686.77	286.14	972.91	573.2	115.56	688.76

Why unfunded liability not recorded in financial statements

The universities have not recorded their share of the unfunded pension liability in their financial statements because:

- they are still working toward an agreement on a reasonable basis to calculate each university's share of the liability.
- proposed changes to the Plan may significantly affect the liability.

Unfunded liability disclosed in financial statement notes

The universities recorded their contributions in accordance with accounting standards as expenses in the year of payment or when due, and disclosed in the notes additional information on the Plan such as the unfunded liability, contribution rates, and the percentage of their membership in the Plan.

Current accounting treatment in accordance with accounting standards

But may not provide most meaningful information to readers

While the universities' current approach uses accounting principles for not-for-profit organizations, the universities should work together to review the accounting treatment for the unfunded liability, considering accounting standards and legislative requirements. If the universities can calculate their share of the liability, recording this amount would provide better information to users of their financial statements. Universities should agree on the consistent treatment of the unfunded liability in their respective financial statements, and the proper presentation of the liability in their financial statements and those of the Ministry of Advanced Education and Technology.

Recommendation intended to improve financial reporting—nothing else

We intend the recommendation to improve the financial reporting of the liability based on some reasonable assumptions that all universities agree to and to ensure their financial statements comply with accounting standards. The recommendation does not mean that universities should change the ongoing operation of the Plan.

Implications and risks if recommendation not implemented

Financial-statement users may not fully understand the universities liabilities.

Performance reporting

Financial statements

This chapter includes the results of our March 31, 2008 financial-statement and performance measures audits of the following entities, which we completed since our *April 2008 Report*:

- Ministry of Advanced Education and Technology
- Department of Advance Education and Technology
- Access to the Future Fund
- Alberta's four universities
- Alberta Research Council
- iCORE Inc.
- Alberta Heritage Foundation for Medical Research
- Alberta Heritage Foundation for Science and Engineering Research

Our April 2009 report will include the results of the financial-statement audits of public colleges, technical institutions and their related entities. These entities have a June 30, 2008 year-end and our work will be completed by November 2008.

Unqualified auditor's reports

Our auditor's reports on the financial statements of the Ministry, Department, Alberta Research Council, iCORE Inc., and the Access to the Future Fund for the year-ended March 31, 2008 are unqualified.

Net assets would have increased by $4 billion

The Ministry included the financial statements of public post-secondary institutions using the modified equity basis of consolidation. The modified equity method of consolidation is allowed as a transition to line-by-line consolidation, which will be required for the year ending March 31, 2009. Under line-by-line consolidation, the Ministry's capital assets would have been fully consolidated so net assets at March 31, 2008 would have increased by approximately $4 billion.

Our auditor's reports on the financial statements of the Alberta Heritage Foundation for Medical Research, and Alberta Heritage Foundation for Science and Engineering Research for the year ended March 31, 2008 are unqualified.

Universities and their related entities

We audited the financial statements for the year ended March 31, 2008 of the following entities:

- Athabasca University
- University of Alberta
- University of Calgary and its subsidiaries/related entities, The Arctic Institute of North America, The University of Calgary Foundation (1999), and the University Technologies Group
- University of Lethbridge

We also audited financial information of the Olympic Oval/Anneau Olympique, operated by the University of Calgary.

Unqualified reports for universities, but fourth paragraph added

Our auditor's reports on the financial statements of the universities and their related entities, except for the Olympic Oval/Anneau Olympique, are unqualified. However, we added a fourth paragraph to draw attention to the notes in the financial statements that describe the unfunded liability of the Universities Academic Pension Plan. This may affect the Universities' future financial statements. Universities should continue to work together and with the Department to review the accounting treatment of the unfunded liability of the Universities Academic Pension Plan.

Auditor's report for Olympique Oval/Anneau Olympique qualified

Our auditor's report on the financial information of the Olympic Oval/Anneau Olympique, operated by the University of Calgary, is qualified because the statement of base operating costs and revenues does not include all the revenues and expenses for maintaining, managing and operating the Oval facility. We could not reasonably determine the amount of excluded revenues and expenses.

Performance measures

One exception

We found one exception on the specified auditing procedures report on the Ministry's performance measure—*ICT Research – ratio of private and other public investments to GOA investments.* We were unable to match information from external third party consultant reports to information that the Ministry used to calculate the results. Therefore, we were unable to conclude that the results presented were reliable and comparable.

Agriculture and Food

Our audit findings and recommendations

1. Agriculture Financial Services Corporation

1.1 Controls for manual Canadian Agricultural Income Stabilization Claims—Implemented

In our *2006–2007 Annual Report* (pages 35 and 36), we recommended that the Agriculture Financial Services Corporation (Corporation) improve data-entry controls for manual Canadian Agricultural Income Stabilization claims.

Controls over manual claims improved

The Corporation improved controls over data entry for manual CAIS claims by:

- implementing additional review-and-verification procedures for manual claims.
- informing staff of the importance of a proper review and of accuracy of data to meet its objectives.
- ensuring manually processed claims are eventually processed through the electronic system to detect any errors.

1.2 Developing and monitoring compliance with an information technology security policy—implemented

In our *2005–2006 Annual Report* (vol. 2, page 43), we recommended that the Corporation:

- improve information system security awareness.
- improve monitoring of compliance with its computer access policy and procedures.

Improved training and monitoring controls

The Corporation implemented the recommendations by:

- providing security awareness training to employees.
- implementing computer access policies and monitoring their effectiveness.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's reports on the Ministry and Department's financial statements for the year ended March 31, 2008 are unqualified.

Our auditor's report on the Agriculture Financial Services Corporation's financial statements for the year ended March 31, 2008 is unqualified.

We issued unqualified auditor's reports on the reconciliations of program payments for the Canadian Agricultural Income Stabilization Program years ended March 31, 2004, 2005 and 2006.

Performance measures

No exceptions

We found no exceptions when we applied specified auditing procedures on the Ministry's performance measures in the Ministry's *2007–2008 Annual Report*.

Children's Services

Our audit findings and recommendations

1. First nation expense recoveries—implemented

In our *2004–2005 Annual Report* (page 130), we recommended that the Ministry improve its systems to recover expenses for providing services to children and families ordinarily resident on reserve.

Department implemented recommendation

The Department implemented our recommendation by:

- documenting the processes and controls the Child and Family Services Authorities (Authorities) were to follow for billing the Designated First Nations Agencies.
- reviewing quarterly the Authorities' reconciliations between billings and receipts and following up with the Authorities on old accounts receivable.

2. Costs and results of information—implemented

Background

In our *2000–2001 Annual Report* (page 62), we recommended that the Ministry improve the systems that report costs and results of operations.

Department implemented recommendation

The Department implemented our recommendation by:

- requiring Authorities to implement consistent policies and procedures.
- developing information systems for each of its key programs.
- establishing performance targets for each program with the available information.

Performance reporting

Financial statements

Unqualified audit opinions

We issued unqualified audit opinions on the financial statements of the Ministry, Department, and the following 10 Authorities, for the year ended March 31, 2008:

- Calgary and Area Child and Family Services Authority
- Central Alberta Child and Family Services Authority
- East Central Alberta Child and Family Services Authority
- Edmonton and Area Child and Family Services Authority
- Métis Settlements Child and Family Services Authority
- North Central Alberta Child and Family Services Authority
- Northeast Alberta Child and Family Services Authority
- Northwest Alberta Child and Family Services Authority
- Southeast Alberta Child and Family Services Authority

- Southwest Alberta Child and Family Services Authority

Performance measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures.

Education

Our audit findings and recommendations

Risk management—implemented

In our *2001–2002 Annual Report* (No. 36, page 192), we recommended that the Department of Education (formerly Learning) establish a risk management process to improve the effectiveness of its control and monitoring activities. This was a continuation of a recommendation first made in 1999.

Risk management processes

The Department implemented our recommendation by:

- Establishing a process to identify and prioritize risk.
- Designing strategies for managing risk.
- Allocating resources to areas of the greatest risk.
- Developing a common language and framework for understanding and communicating important issues.
- Allowing for measurement, monitoring and reporting.

Performance reporting

Financial statements

Unqualified auditor's report

Our auditor's reports on the financial statements of the Ministry, Department, and the Alberta School Foundation Fund for the year ended March 31, 2008 are unqualified.

The modified equity method of consolidation is allowed as a transition to line-by-line consolidation, which will be required for the year ending March 31, 2009.

Net assets would have increased by $2.7 billion

Under line-by-line consolidation, the Ministry's capital assets would have been fully consolidated so net assets at March 31, 2008 would have increased by approximately $2.7 billion.

Performance measures

No exceptions

We found no exceptions when we applied specified auditing procedures on the Ministry's performance measures.

Employment, Immigration and Industry

Summary of our recommendations

Improve monitoring and enforcement

The Department should improve its systems to approve tuition-based training programs and monitor and enforce training providers' compliance with legislation and policies—see pages 245 and 249. The Department should also improve the use of its information systems—see page 251.

WCB: improve purchasing controls

The Workers' Compensation Board should consistently enforce its employee purchasing card procedures—see page 253.

Our audit findings and recommendations

1. Department—Systems to provide tuition-based training to learners

1.1 Summary

Department paid $52 million tuition in 2006–07 academic year

The Department of Employment and Immigration's tuition-based funding program has operated since 2002–2003. For the 2006–2007 academic year, the Department spent $52[1] million in tuition fees to upgrade eligible learners' (students') employment skills or prepare learners for further training. During the year, the Department paid tuition and benefits for about 13,000[2] learners.

Department pays tuition for approved programs so people can improve skills

The Department's delivery model for the program allows learners to select a training provider and, if the program is approved and the learner is eligible, the Department pays the tuition fee for the learner directly to the training provider. Approved programs include occupational programs such as legal assistant and practical nurse, and pre-occupational programs such as academic upgrading and English as an Additional Language.

More than 200 training providers receive tuition-based funding

The Department provides tuition-based training through four main types of training providers—private vocational schools, accredited schools, private providers, and public post-secondary institutions. Currently, more than 200 training providers receive tuition-based funding from the Department. Approximately 40 of these training providers also provide case management services to learners under an accountability framework agreement (AFA) with the Department. The Department and third party contractors provide case management services for learners who do not attend an AFA provider.

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[1] The source of the tuition fee payments is based on an analysis of IMAGIS payment data from September 1, 2006 to August 31, 2007.

[2] The source of the number of learners is based on an analysis of IMAGIS payment data from September 1, 2006 and August 31, 2007.

Case management services for learners

Case-management services are key in delivering tuition-based training. These services include assessing learner eligibility, monitoring learner progress and attendance, and following up to see if learners have found employment or moved on to further training. Case managers work with learners to ensure that they receive appropriate training and to monitor their progress.

Does Department have good systems to run program

We examined whether the Department has adequate systems to approve tuition-based training programs and to monitor and enforce training providers' compliance with legislation and policies. We also examined the Department's response to allegations against Canadian College Institute International (CCII) and CDI College Edmonton (CDI) of non-compliance and misuse of public funds.

Scope excludes contracted courses and financial benefits to learners

We did not examine training provided to learners where the Department contracts with a training provider to deliver a specific program to a group of learners or where the Department directly delivers training to learners. Also, we did not examine systems to issue living allowances or Alberta Health Benefit cards or Apprenticeship Program payments.

Department needs to set clear expectations and measure results

The Department has policies and procedures for approving and renewing training programs. It can improve them by setting clear performance expectations for training programs and providers when it approves a program and by considering performance results in the renewal process.

Monitoring program does not consider outcomes or routinely quantify refunds

The Department has an established monitoring program for training providers that identifies cases of training provider non-compliance with Department policy and legislative requirements. However, the monitoring process does not assess a training provider's achievement of learner outcomes. Also, this monitoring process does not routinely quantify tuition fee refunds payable to the Department if the training provider is not complying with withdrawal policies.

Inconsistent follow up on compliance problems

The Department's processes for following up non-compliance problems with training providers are inconsistent and policies and procedures are not clearly defined.

CCII follow-up reasonable; CDI did not go far enough

We found that the Department took reasonable steps to respond to a public complaint alleging non-compliance and misuse of public funds by CCII. The Department's review of CDI did not go far enough to identify potential tuition fee refunds payable to the Department.

Three recommendations to improve systems

Our main recommendation is for the Department to improve its processes for monitoring training providers' compliance with department policies and legislated requirements. We also recommend that the Department develop and communicate its performance expectations to training providers and improve the use of its information systems to manage the program.

2. Findings and recommendations

2.1 Monitoring and enforcement of training providers

Recommendation No. 24

We recommend that the Department of Employment and Immigration improve its monitoring of tuition-based training providers by:

- **assessing whether performance expectations are being met.**
- **quantifying tuition refunds that may be owing to the Department.**
- **implementing policies and procedures that outline steps and timelines for dealing with non-compliance problems.**

Background

Monitoring systems

Auditing firm assesses training providers' compliance

The Department has hired an auditing firm to annually monitor and assess training providers' compliance with the *Training Provider Regulation* and Department policies. The firm conducts audits on a sample of all training providers. It uses a risk-based methodology to decide which training providers to audit. The audits examine training provider compliance in key areas of training provider responsibility such as maintaining records of learners' progress, attendance and withdrawals. If the training provider is an AFA holder, the audit also examines compliance with case-management responsibilities such as assessing learner eligibility and conducting follow-up assessments to see if learners have found employment.

Comprehensive report on results of compliance audits

The firm provides a comprehensive report to the Department on the results of each audit. The report provides a compliance rate for each area of responsibility and then calculates an overall compliance rate for that training provider. The firm makes recommendations to training providers, based on its review of them. The firm also gives the Department a report summarizing the results of all audits and identifying overall areas of non-compliance and risk.

Follow-up on monitoring reports

Staff at six regional offices must follow up on results of reports

Staff at the Department's six regional offices follow-up on the results of compliance audits. Staff also follow-up on complaints and inquiries from learners. Follow-up consists of site visits of training providers by regional management to discuss implementing the firm's recommendations or to investigate complaints.

Remedies under *Act*

The *Income Support Act* describes remedial action available if training providers do not comply with the *Act* or *Regulation*. The Department can:

- withhold later payments if a tuition fee is not refunded.
- restrict the number of learners a training provider may accept.
- terminate or suspend agreements.
- audit the books and records of the training provider.
- issue a notice of an administrative penalty.

Criteria: the standards we used for our audit

The Department should have a process to monitor and enforce training providers' compliance with legislation, program objectives, and any accountability agreements.

Our audit findings

Monitoring

Monitoring processes can be improved

The Department has a process to monitor training providers that involves auditing them using a risk-based audit approach. The existing monitoring process is working as designed but the Department needs to improve the effectiveness of its processes.

No clear targets

The Department has not established target compliance rates to guide its monitoring activities. Target compliance rates for each key area of training provider responsibility such as maintaining adequate records of learner progress and recording withdrawals would help the Department focus on significant non-compliance issues.

Learner outcomes not assessed

The monitoring process does not assess a training provider's achievement of learner outcomes because performance expectations for a specific program have not been communicated to training providers. Without clear performance expectations and targets it is difficult to conclude whether a training provider is meeting the Department's expected outcomes and what follow-up action is required.

Determine potential refunds from withdrawals

The Department's compliance audits identify a training provider's compliance rates in recording student withdrawals from programs. However, the Department does not require compliance audits to routinely determine the amount of any tuition fee refunds arising from these withdrawals.

Follow-up on monitoring reports

Compliance not consistently enforced

The Department has a process to follow up with training providers to review monitoring results and develop action plans to deal with non-compliance matters. However, the processes to follow up on non-compliance matters are not consistently applied and enforced.

Inconsistent follow-up of monitoring reports and action plans

The Department does not consistently follow up on the results of the monitoring reports. Regions are inconsistent in how to correct compliance problems identified in the monitoring reports. In some cases, regional area staff work with training providers to develop plans to correct problems. However, the Department does not require action plans in all cases. Also, the steps the regions take are not adequate to confirm compliance problems are corrected.

Give staff and training providers guidance on enforcement

The Department needs to provide guidance for staff to help them determine the enforcement actions to take with a non-compliant training provider. The *Income Support Act* provides several enforcement options, but the Department policies do not clearly indicate when to take these steps. Any such guidance or policy should also be communicated to training providers so they are aware of the steps that will be taken to enforce compliance.

Canadian College International Institute (CCII)

Complaint of non-compliance and misuse of funds

In July 2004, the Department received a complaint about CCII alleging non-compliance in a number of areas and the misuse of public funds. Allegations included:

- falsification of grades and attendance records.
- the reduction of instruction hours below the minimum requirements.

We examined whether the Department took reasonable steps to assess the allegations and identify non-compliance issues.

Department took reasonable steps to investigate

Overall, we found that the Department took reasonable steps to follow up on the complaint. From August 2004 to September 2005, it took several actions to assess the extent and cost of non-compliance. The Department hired an auditing firm to conduct two special audits of CCII, in addition to the regular compliance audits that it carries out each year. Also, the Department consulted with the Ministry of Justice. It then worked with CCII to review records and conduct additional procedures to determine non-compliance costs. This work was based on an action plan developed by CCII and the Department.

The following summarizes the Department's steps on the CCII complaint:

Monitoring found non-compliance at CCII

- In August 2004, the auditing firm conducted its regularly scheduled compliance audit and identified a number of compliance problems, including: unauthorized repeating of classes; progressing students when they failed a course; exceeding the unexcused absence limit; and inaccurate information in attendance records.

More problems found with attendance and repeated courses

- In September 2004, the Department asked the firm to conduct additional procedures to determine if the public complaint allegations had merit and to calculate the cost of non-compliance. In November 2004, the firm issued its report to the Department, identifying problems with attendance requirements and unauthorized repeating of courses.

Department and CCII agreed on two plans

- On November 29, 2004, the Department met with CCII representatives to discuss the audit results. They agreed on two action plans. One focused on solving the non-compliance problem; the second plan focused on the process for verifying non-compliance costs the report identified.

Another audit to calculate non-compliance costs

- In January 2005, the Department asked the firm to do additional work to calculate the actual costs of non-compliance and do further procedures to assess the allegations of manipulated records.

Firm calculated non-compliance cost of $59,312

- In April 2005, the firm submitted its report to the Department, calculating non-compliance costs of $59,312. The firm also gave a draft report to CCII, which then explained why it believed the proposed the cost calculation for non-compliance should be reduced.

Department reviewed costs and agreed to $22,362 reimbursement from CCII

- The Department visited CCII to do its own review and examine learner files to verify CCII's submission to reduce non-compliance costs. After the Department finished its review, it agreed to reduce the non-compliance costs for CCII to reimburse to $22,362 from $59,312. One reason for the reduction was that the Department and CCII had a different interpretation of the deemed withdrawal date set out in the *Training Provider Regulation.* In September 2005, the Department recovered $22,362 from CCII.

Improve process for compliance with specific steps and timelines

Although the Department responded reasonably to the complaint, it can improve its processes by having specific policies and procedures that clearly prescribe steps and timelines for dealing with non-compliance. This would support a fair and consistent process for dealing with all training providers.

CDI College (CDI) Edmonton

Audit insufficient to identify refunds due to non-compliance

The Department's compliance audit found that CDI repeatedly failed to comply with attendance and withdrawal requirements. The Department developed an action plan with CDI to prevent future non-compliance. The Department also did its own review to assess the quality of case-management services that CDI provides to learners. But the Department's audit did not go far enough to identify potential tuition-fee refunds due to non-compliance with the withdrawal policy.

Implications and risks if recommendation not implemented

Training providers with poor performance may continue to receive funding from the Department and provide training to learners.

2.2 Approving and renewing training programs

Recommendation

We recommend that the Department of Employment and Immigration improve its systems for approving and renewing programs by:

- **clearly defining criteria for approving each program.**
- **developing clear performance expectations for each program and training provider.**
- **using its monitoring results to decide whether to renew a program.**

Background

Training program and provider approval

Department policy has guidelines on program approval

The *Training Provider Regulation,* approved in 2003, outlines requirements for training providers offering a tuition-based program. It also requires the Department to approve the program. In October 2007, the Department developed a policy with guidelines on program approval.

Private vocational programs licensed by the Department of Advanced Education and Technology

The Department relies on the Department of Advanced Education and Technology to license private vocational programs delivered by private institutions. For example, the Department will pay the tuition for a learner to attend licensed programs such as professional legal assistant and information technology specialist offered by private vocational schools. It also relies on processes at the Department of Advanced Education and Technology for approving diploma and certificate programs offered by public post secondary institutions. The Department will pay tuition for a learner to attend these programs if the programs do not exceed 20 months, are not part of a degree program, and have tuition fees less than $15,000.

Department approves some programs based on criteria in *Regulation*

Other programs the Department approves must meet certain criteria prescribed in the *Training Provider Regulation*. For example, the Department must consider whether employment opportunities exist for graduates of a particular program. The Department must also consider the likelihood of the training provider meeting reasonable performance expectations the Department sets.

Training providers must apply for approval

The Department's approval process includes requiring the training provider to complete a comprehensive application form. The Department reviews the application and then tells the training provider whether it has approved them.

Program renewal done annually

Training providers must apply for renewal each year. Department policy sets out the factors it considers in renewing a program. If a program is not renewed, learners will not receive Department funding to attend it. Some of the factors are whether:

- tuition fees are reasonable compared to those in previous years and similar programs.
- the training-provider audit and monitoring results are satisfactory.
- performance outcomes of the training provider are met.
- other training providers can deliver the program.

Criteria: the standards we used for our audit

The Department should have systems in place to ensure that programs offered by training providers are approved and meet its objectives.

The Department should clearly define expectations, roles and responsibilities of training providers and communicate them to training providers.

Our audit findings

Criteria for approving each program

Establish evaluation criteria for each program

The *Training Provider Regulation* outlines the approval requirements for programs offered by training providers and the Department has developed approval and renewal policies and procedures. The Department needs to improve its approval process by establishing evaluation criteria specific to each program. For example, the Department does not have consistent criteria for approving English as an Additional Language programs offered by several training providers.

Expectations of training providers

Training provider responsibilities clear

The *Training Provider Regulation* outlines the roles and responsibilities of training providers for providing programs. But the Department has not communicated performance expectations for acceptable learner outcomes or compliance targets to training providers.

No set performance expectations for training providers

While the Department has developed overall performance measures to assess the success of its Skills Investment Program, it needs to define expectations for training providers more clearly. Training providers must comply with the *Income Support Act*, the *Training Provider Regulation*, and any agreement they sign with the Department. But the Department has not set or communicated performance expectations for key success measures related to learner outcomes such as learner success in completing programs and/or obtaining employment. The Department has also not communicated compliance audit targets to training providers that cover key responsibilities such as compliance with Department withdrawal policies.

Agreements do not include performance expectations

The Department enters into accountability framework agreements for case-management services with certain training providers. These agreements outline the training providers' responsibilities for delivering case-management services. But they do not clearly define the Department's performance expectations for the training provider's delivery of programs. Performance expectations should be part of the AFA provider agreements.

Communicate expectations to all providers

For non-AFA training providers, the Department needs to develop a way to communicate expectations when it approves a program. If a training provider consistently fails to meet certain performance targets, the Department can consider this when assessing whether to renew a program.

Renewing programs

Renewal policy not consistently applied

The Department's policy for renewing a training program is not consistently followed. It assesses the reasonableness of tuition fees at renewal. But staff do not consistently consider other criteria set out in its policy. Criteria such as "reviewing compliance monitoring results" or "assessing whether performance expectations were achieved" are not consistently considered in renewal decisions. The problem arises partly because six regional offices and several regional staff are responsible for renewing programs.

Implications and risks if recommendation not implemented

Without setting clear expectations, the Department may approve programs that do not improve employment and training outcomes for learners.

2.3 Improve the use of information systems

Recommendation

We recommend that the Department of Employment and Immigration improve the use of its information systems by:

- **integrating its payment-processing system with other learner databases to ensure that tuition fee payments are accurate.**
- **implementing adequate controls to ensure all key learner data is promptly updated in the system.**
- **using exception reports to detect potential non-compliance problems.**

Background

Three information systems to manage program

The Department uses three information systems to manage this program:

- a learner-information database—includes learner contact and program information. It also has information on attendance, withdrawal, and assessments done on a learner.
- a payment-processing system—used to process payments to training providers and learners.
- an approved-programs-and-tuition-fees database—used to track programs eligible for funding for each training provider and the amount of the approved tuition fee. It is updated annually.

Criteria: the standards we used for our audit

A process should exist to confirm that the amount of tuition fees paid is accurate, and refunds are promptly identified and collected.

The Department should have an information system that generates relevant, accurate and reliable information on training providers and learners the Department funds.

Our audit findings

Three systems not integrated

The Department has three information systems that collect key data and process payments to training providers and learners. However, these information systems that support the administration of the tuition-based funding program are not integrated. As a result, the Department is not using the information in the systems effectively and efficiently to manage the program.

The following are some examples of areas that need improvement:

Tuition payments may exceed approved amounts

- The Department's database stores information on the approved maximum tuition fee for each program. The database and the payment system are not integrated, and the Department pays the tuition fee based on the learners' application for funding, not on the amount approved in the database. As a result, tuition payments may exceed the approved amount.

Payments may be made before eligibility confirmed

- One of the information systems has fields to be updated when a case manager assesses if a learner is eligible for funding. Because this system is not integrated with the payment-processing system, inadequate controls are in place to ensure payments are processed only after eligibility is confirmed.

Withdrawal date not input for learners: refunds may be missed

- Refunds payable to the Department under the *Training Provider Regulation* are based on the withdrawal date. But this date does not have to be entered into the information system for learners who have not completed training. We examined 20 samples where the learner had not completed the program—in 11 cases, the withdrawal date was not entered into the system. So the Department may not have collected refunds owed to it.

Not all key data input to systems

As well, the Department has not implemented adequate controls to ensure all data required by case managers is updated into the information system. For example, if a learner submits updated contact information directly to the Department, this information is not entered into the information system that case managers use. As a result, case managers may have difficulty reaching learners to confirm program status and complete their follow-up assessments.

Information system not used effectively to detect or prevent non-compliance

The Department can also improve the reporting functions of its information systems to detect potential non-compliance. Reports could be generated to highlight exceptions such as:
- case managers not doing an eligibility assessment.
- follow-up assessments not completed 30, 90 or 180 days after a learner has finished a program.
- learners taking unauthorized repeat courses.

Implications and risks if recommendation not implemented
Lack of integrated information systems may result in overpayments of tuition fees. And the Department may miss out on refunds it is owed.

3. Workers' Compensation Board (WCB)—Enforce procedures and guidelines for purchasing-card program

Recommendation
We recommend that the Workers' Compensation Board enforce its procedures and guidelines for the purchasing-card program by ensuring that all purchasing-card reports are appropriately approved and have supporting documentation.

Background

WCB guidelines for purchasing cards

Most purchases of goods and services by the Workers' Compensation Board (WCB) are made with purchasing cards. As of November 2007, WCB had issued 208 purchasing cards to staff. WCB has procedures and guidelines on using and managing purchasing cards.

Management Audit Services tested purchasing-card transactions

Management Audit Services (MAS) tested purchasing-card transactions to evaluate compliance with WCB purchasing guidelines and to assess the effectiveness of related processes. MAS gave its reviews to WCB's procurement advisor to ensure appropriate follow-up takes place.

Criteria: the standards we used for our audit

Supervisors need to approve purchases

Employees' supervisors should review and approve cardholder statements after matching all purchases on the expense report to the supporting invoice or other documentation.

WCB should promptly check

WCB should promptly investigate exceptions revealed by testing and ensure compliance with procedures and guidelines.

Our audit findings

Supporting documents missing

We tested a sample of purchasing card transactions—part of a larger sample MAS tested for the first two-quarters of 2007. Two of six samples from the MAS report lacked supporting documentation and one was not signed by the employee's supervisor.

Prompt follow-up by WCB missing

MAS identified these exceptions in its work, but WCB had not followed up on them as of November 2007.

Implications and risks if recommendation not implemented

Invalid purchases

WCB may record unauthorized or personal purchases as expenditures.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's report on the Ministry financial statements for the year ended March 31, 2008 is unqualified.

We issued an unqualified audit opinion for the March 31, 2008 Labour Market Development Claim.

We issued an unqualified audit opinion for the March 31, 2007 Employability Assistance for People with Disabilities Claim.

We issued an unqualified auditor's opinion on the financial statements of WCB for the year ended December 31, 2007. We also issued an unqualified auditor's opinion on the schedule of administrative charges of WCB for the year ended December 31, 2007.

Performance measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures in the Ministry's *2007–2008 Annual Report*.

We found no exceptions when we completed specified auditing procedures on WCB's performance measures in its accountability framework.

Energy

Summary of our recommendations

The Department should quantify the environmental benefits of projects approved under the bioenergy initiative—see section 1 below.

We recommend that the Department strengthen its controls over the initial reporting of fuel gas volumes and monitoring of amendments to those same volumes—see page 257.

Our audit findings and recommendations

1. Alberta's Bioenergy Programs

Recommendation No. 25

We recommend that the Department of Energy:

- **undertake and document its analysis to quantify the environmental benefits of potential bioenergy technologies to be supported in Alberta.**
- **establish adherence to the Nine Point Bioenergy Plan as a criterion within its bioenergy project review protocol, and require grant applications to indicate the projected environmental benefits of proposed projects.**
- **prior to awarding grants in support of plant construction, require successful applicants to quantify—with a life cycle assessment—the positive environmental impact relative to comparable non-renewable energy products.**

Background

Bioenergy part of Province's emission reduction strategy

The 2002 Albertans & Climate Change: Taking Action Plan and the 2008 Climate Change Strategy identify developing alternate energy in Alberta as a key action for meeting the province's emissions reduction targets. Alternative energy includes wind and solar power, hydrogen, geothermal energy and bioenergy. Alberta's Nine Point Bioenergy Plan and the Bioenergy Policy Framework guide the development of bioenergy. The Ministry of Energy administers the bioenergy plan and framework.

Three grant programs- $239 million

The objective of the $239 million bioenergy plan is to stimulate ethanol, biodiesel and biogas development in Alberta through three major grant programs:

- Biorefining Commercialization and Market Development Program.
- Bioenergy Infrastructure Development Program.
- Renewable Energy Producer Credit Program.

Projects must have net environmental benefit

The policy framework describes the desired outcomes within Alberta, critical policy objectives, guiding principles, and policy decision criteria. The framework requires that the environmental impact of bioenergy projects funded by the Ministry be equal to or less than the impact of existing energy products. Proponents must therefore quantify whether there is an environmental benefit to the project.

During 2007, 2008 and the first quarter of fiscal 2009, the Department approved multi-year grants totalling about $93 million for 61 projects under the three grant programs. The objectives of projects funded by the two development grant programs are to develop production facilities, to conduct studies to assess market sustainability and to test new bioenergy technology. Under the Producer Credit Program, the Department provides grants to companies who produce bioenergy.

Life cycle assessment

Life cycle assessment is the examination of the full environmental impact of a product over its entire life cycle—from raw material acquisition to manufacturing, distribution, use and, ultimately, disposal.[1]

Criteria: the standards we used for our audit

Projects funded under bioenergy grant programs should demonstrate, using a life-cycle assessment approach, that the full environmental impact of all stages of bioenergy production and use is equal to or less than the impact of the energy products the project is replacing.

Our audit findings

No assessment of environmental impact

Although the policy framework requires an assessment of the environmental impact, the grant applications we reviewed did not have any environmental-impact information and the criteria for evaluating the projects did not include an assessment of the environmental impact.

No overall analysis of environment impact

Although Ministry staff said they believe the net environment impacts of these programs will be positive, the Ministry has not done any overall analysis to indicate that the alternative fuels generated because of these programs will reduce the province's greenhouse gas emissions.

Implications and risks if recommendation not implemented

Without an assessment of the environmental impact of these projects, their contribution to Alberta's climate-change plan is unknown. The environmental costs of some projects may exceed their benefits.

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[1] Alberta Environment—Specified Gas Emitters Regulation-Offset Credit Project Guidance document

2. Strengthen controls to detect and prevent errors in reporting royalty-liable fuel-gas volumes

Recommendation No. 26

We recommend that the Department of Energy:

- **strengthen controls to prevent fuel-gas volumes being incorrectly reported in the Petroleum Registry of Alberta and to detect incorrect reporting.**
- **improve its detection and monitoring processes over fuel-gas volume amendments.**

Background

After natural gas is produced, it is transported and processed into marketable products through a network of pipelines, gathering facilities, and gas plants. Producers are liable to pay royalties on either unprocessed gas or natural gas by-products, depending on the point in the process when the gas leaves the network. Some of the gas produced is used as fuel for compression, gathering and processing within the network. In all cases, gas purchased and used as fuel within the network is counted as having left the network and the producer (seller) is royalty liable.

Producers and facility operators must account for gas volumes monthly in the Petroleum Registry of Alberta (the Registry). They must report volumes produced and transferred within, and disposed from, the network. When facility operators buy and use gas for fuel within the network, they must report it as a "purchased receipt." This reported activity code denotes within the Registry a royalty-liable disposition of gas. On the other hand, if a facility operator receives, from a producer, gas that is not being used for fuel, it is reported as a "receipt," classifying the transfer as non-royalty liable. Although the recipient reports whether a volume is fuel gas, the disposer of the gas volumes is responsible for ensuring reported fuel-gas volumes are accurate.

In 2007, the Department found a case—through its monthly variance analysis process—where it appeared that gas used for fuel was not properly recorded in the Registry. This prompted the Department to review the volumetric dispositions of gas reported on the Registry for fuel use. When the Department discovered that fuel-gas volumes could be recorded inaccurately, it notified industry through the November 2007 "Gas Royalty Information Bulletin," that it was reviewing volumetric disposition of gas reported on the Registry for fuel. In the March 2008 "Gas Royalty Information Bulletin," the Department directed all producers potentially affected to take appropriate steps to ensure that in-network sales or transfers of gas are correctly reported.

Criteria: the standards we used for our audit

The Department should have controls and processes in place to:

- ensure that industry's reported fuel-gas volumes are recorded accurately.
- ensure that all fuel-gas volume amendments are made completely and accurately.
- estimate the royalty impact if it finds inaccurate reporting by industry.

Our audit findings

Royalty liable gas misreported

Fuel-gas volume reporting controls—After the Department's review found that an operator was not accurately recording fuel-gas volumes, the Department manually recalculated royalties that had not been charged to the producers who sold fuel-gas volumes to that operator's facilities for the 2003 production year. It estimated the royalty underpayment due to inaccurate recording by this one operator at about $2 million for the 2003 production year. The Department did not recalculate the potential royalty underpayments for the 2004 to 2007 production years. Instead, it asked the operator and producers involved to review their own reported fuel gas transactions to determine and correct any fuel-gas volume reporting errors up to the end of 2007.

The Department performed further analysis and also estimated that up to 60 other operators of receiving facilities could be affected because of inaccurate reporting of fuel-gas volumes. It asked all operators—who appeared to have fuel-gas reporting errors—to review and amend where necessary volumetric data for the 2003 to 2007 production years. The Department expects operators to complete their own review and make all amendments by the end of the 2008 calendar year. Initially the Department did not estimate the potential royalty impact of fuel gas reporting errors until we asked them to. Using the preliminary findings from their review of the 2003 production year fuel gas volume transactions the Department extrapolated the findings to the 2004–2007 production years. The Department roughly estimated the royalty impact for all 5 years for all affected operators to be $25 million. The actual royalty value of the errors could be significantly different. Because the Department does not verify that reporting changes are being made completely and accurately (discussed below), the actual royalty impact from this issue may never be known.

No effective control to ensure volumes accurately reported

Currently the reporting system does not prevent operators from coding royalty-liable fuel gas dispositions as non-liable dispositions. So, in addition to identifying and correcting errors in the past five years of data the Department needs to find a way to prevent or at least reduce them in the future. The Department indicated that one solution may be to shift the responsibility of reporting fuel-gas volumes to the disposer (the royalty-liable party) from the recipient. The rationale for this proposed change is that the disposer has more of an incentive to ensure that the reporting is correct than the recipient because the disposer pays interest on any royalties owing when reporting errors are found.

No effective verification that industry finds and corrects own mistakes

Detection and monitoring of fuel-gas volume amendments—As discussed above the Department has asked operators to perform their own review of fuel gas dispositions and make corrections where necessary by the end of 2008.The Department has not requested confirmation or evidence from operators that they are reviewing and amending reported fuel-gas volumes as necessary. The Department told us it plans to continue following up this issue. But it cannot readily confirm that amendments in the Registry are being made completely and accurately because operators are not required to provide explanations or support for amendments when processed. Although the Department can confirm that reporting changes from "receipt" to "purchased receipt" are being made, it cannot specifically confirm whether producers are making all necessary changes.

Because of these findings, we plan to review the systems the Department uses to validate all amendments made within the Registry.

Implications and risks if recommendation not implemented
Without effective controls over the initial reporting of fuel-gas volumes, errors may continue, resulting in lost royalties (not appropriately charged to royalty-liable production volumes).

Without effective monitoring of fuel-gas amendments that industry makes, the Department cannot know if amendments are actually being made or if they are accurate.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's reports on the financial statements for the Ministry and the Department for the year ended March 31, 2008 are unqualified.

Our auditor's reports on the financial statements of the Alberta Energy and Utilities Board and the Alberta Petroleum Marketing Commission for the 9 months and the year ended December 31, 2007 respectively are unqualified.

Our auditor's reports on the financial statements of the Alberta Utilities Commission and the Energy Resources Conservation Board for the 3 months ended March 31, 2008 are unqualified.

Performance measures

No exceptions We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures.

Environment

Summary of our recommendations

The Ministry should:

- implement processes for completing the financial statements of the Climate Change and Emissions Management Fund (the Fund)—see below.
- prepare the Fund's financial statements on an accrual basis—see below.
- improve its governance of ad hoc grants received from the federal government—see page 262.

Our audit findings and recommendations

1. Climate-Change and Emissions-Management Fund

Recommendation No. 27

We recommend that the Ministry implement processes to comply with the Department of Treasury Board's deadlines for completing the financial statements of the Climate Change and Emissions Management Fund. We also recommend that the Ministry's management prepare the Fund's financial statements on an accrual basis.

Background

New Climate-Change and Emissions-Management Fund effective April 20, 2007

The section of the *Climate Change and Emissions Management Act* establishing the Fund came into force on April 20, 2007 and the *Specified Gas Emitters Regulation* became effective on June 27, 2007. Under this regulation, facilities emitting more than 100,000 tonnes of greenhouse gases a year must reduce their emissions intensity for the period July 1 to December 31, 2007 and later compliance periods, according to the target limits specified in the regulation. Facilities can make their reductions by improving their operations, purchasing Alberta-based offsets or emission performance credits, or purchasing Fund credits for $15 per tonne.

Our audit findings

Fund information not auditable

The Ministry originally planned to begin the compliance period on January 1, 2008 but decided to move-up the start date by six months.

The facilities had to report amounts owed for the 2007 compliance period by March 31, 2008.

Audit opinion has scope limitation

At the time of preparing the Fund financial statements, the Ministry was still verifying completeness, accuracy and compliance with legislation for the amounts reported as owing by the facilities. An estimate was also not made of the revenue owing to the Fund from facilities for the period January 1 to March 31, 2008. Consequently, the audit opinion on the Ministry's financial statements contains a scope limitation and we did not provide an opinion on the Fund's financial statements.

Implications and risks if recommendation not implemented

Non-compliance with government directives on performance reporting, results in untimely and incomplete accountability to Albertans.

2. EcoTrust governance

Recommendation

We recommend that the Ministry of Environment improve its governance of ad hoc grants received from the federal government.

Background

Ministry received $155.9M grant

In March 2007, the federal government announced $155.9 million EcoTrust funding for Alberta. EcoTrust is to support provincial projects that will result in real reductions in greenhouse gas emissions and air pollutants. The funding for the province was made available through a third-party trust deposited with Alberta Finance. The funding was transferred to Alberta Environment in April 2007 and recorded as unearned revenue. The funds continued to be reported as unearned revenue as at March 31, 2008.

Our audit findings

Formal process required to govern ad hoc grants

The Ministry does not have a formal process for governing ad hoc grants. It could not provide complete information about the intended use of funds. We identified a separate entity, Alberta Energy Research Institute (AERI), part of Advanced Education and Technology, that had included the EcoTrust grant in its 2008–13 Strategic Business Plan. Management at AERI were not aware of a process for transferring the funds from the Ministry.

Implications and risks if recommendation not implemented

Lack of processes for managing and reporting on the use of grant funds could result in non-compliance with grant conditions.

3. Managing for results—changed circumstances

In our *2003–2004 Annual Report* (No. 13—page 138) we recommended that the Ministry of Environment improve the process for developing new performance measures and ensure the measures in its business plan assess the results each goal aims to achieve.

We reviewed the goals and measures in Budget 2008 and concluded that they have changed significantly. So our previous recommendation is no longer relevant. Ministry management indicated that goals are more directly focused on the Ministry's contribution to desired results and reflect direction in the Minister's mandate letter.

Performance reporting

Financial statements

Qualified opinion

Our auditor's report on the Ministry's financial statements is qualified with a scope limitation. On the Department's financial statements for the year ended March 31, 2008, our auditor's report is unqualified.

No exceptions

Performance measures

We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures.

Executive Council

Performance reporting

Financial statements

Unqualified auditor's report

Our auditor's report on the Ministry's financial statements for the year ended March 31, 2008 is unqualified.

Performance measures

No exceptions

We found no exceptions when we applied specified auditing procedures on the performance measures in the Ministry's 2007–2008 Annual Report.

Finance

Summary of our recommendations

The Department should:

- examine financial reporting processes and succession planning—see page 268.
- develop a process for ensuring complete recording of donated funds—see page 270.
- ensure payroll bank reconciliations are promptly prepared and reviewed—see page 271.
- develop an IT control framework—see page 51.
- review user access—see page 272.
- review use of spreadsheets in processing taxes—see page 273.

Alberta Treasury Branches should:

- improve its treasury management systems—see page 109.
- improve internal controls over fair-value calculations of investments and derivatives[1]—see page 274.
- promptly update derivative credit limits in reports—see page 276.
- improve controls for capturing non-consumer loan-risk ratings in its banking system—see page 277.
- implement action plans to resolve internal control weaknesses identified by ATB's internal control group—see page 278.
- complete criminal record checks for new employees before they start work—see page 279.
- develop and implement a securitization policy and securitization business rules—see page 280.

Alberta Investment Management Corporation should:

- prepare for internal control certification—see page 282.
- rectify conflicting responsibilities for internal audit—see page 284.
- improve procedures for valuing real estate investments—see page 285.
- improve completeness and accuracy of private equity partnership investments—see page 287.
- monitor International Swaps and Derivatives Association agreements—see page 288.
- improve controls over trading with approved counterparties—see page 290.
- develop an IT control framework—see page 51.
- improve performance measurement review processes—see page 291.

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[1] Derivatives are financial instruments whose value changes in response to the changes in underlying variables. The main types of derivatives are futures, forwards, options and swaps.

- improve controls over record management—see page 291.

Alberta Capital Finance Authority should extend the deadlines for finalizing the financial statements and the audit—see page 292.

Alberta Pensions Administration Corporation should develop an IT control framework—see page 51

Alberta Securities Commission should:
- develop an IT control framework—see page 51
- clarify its purchase policy—see page 294.

Our audit findings and recommendations

1. Department of Finance

1.1. Financial reporting processes and succession planning—Investment Accounting and Reporting Group

Recommendation No. 28

We recommend that the Investment Accounting and Reporting group (IAR) of the Department of Finance and Enterprise improve the timeliness of its financial reporting and assess IAR workloads by:
- **recruiting sufficient people with expertise in investment accounting.**
- **ensuring time budgets allow for increases in the number of investment pools, complexity of investment transactions, staff absences, management review and correction of errors.**
- **creating a management succession plan.**

Background

IAR group focuses on investment accounting

The Investment Accounting and Reporting (IAR) group of the Department of Finance and Enterprise is responsible for the financial reporting of the investment clients of Alberta Investment Management Corporation (AIMCo), which has total investments under management of $75 billion. The group prepares working papers, financial information and financial statements for 5 endowment funds, 10 pension plans, the Consolidated Cash Investment Trust Fund, and 20 government and other funds. The group also prepares the quarterly financial statements and public reports for the Alberta Heritage Savings Trust Fund (AHSTF).

On a monthly basis, IAR prepares bank reconciliations and financial reports for approximately 60 investment pools. On a quarterly basis, the group determines investment write-downs, reviews cut-off, makes accruals and proposes adjustments to the investments general ledger. They analyse and report derivative transactions, combine investments pools into common investment schedules and calculate client's share of investment balances and transactions.

IAR provides accounting policy advice to AIMCo, Department officials and other organizations. Group management attends AIMCo meetings, Endowment Fund Policy Committee meetings and AHSTF Standing Committee meetings.

Criteria: the standards we used for our audit

For accurate and timely financial reporting of investment balances and transactions, the IAR group should ensure that:

- a sufficient number of knowledgeable professional staff are available to perform the work on a timely basis.
- attainable time budgets are set for the completion of financial reporting.
- time budgets include provisions for increase in number of investment pools, complexity of investment transactions, staff absences, management review and correction of errors.
- appropriately trained back-up personnel are available to replace key managers in the event of sickness, injury or resignation.

Our audit findings

Time constraints

Timelines for the audit of financial statements prepared by IAR are fixed for the entire Government of Alberta and cannot be extended. However, the number and complexity of the investment pools, and total dollars invested has increased exponentially, increasing the time required to prepare the financial statements and supporting working papers. A vast majority of work prepared for audit by the IAR group must be completed in a matter of a few weeks. The IAR group has more work to do but the time allowed has not changed and the size and skill sets of the group have not increased proportionately.

As a result of the departure of an experienced staff member, many bank reconciliations and some working papers were provided to us later than planned, resulting in delays in completion of our audit procedures. We observed that the senior manager of the group and his staff were under pressure to deliver the working papers, financial statements and other reports on time. They were working long hours on both weekdays and weekends.

Lacks resources

The IAR group does not have sufficient depth and breadth of staff resources to complete the quarterly financial reporting cycle without the direct involvement of the group's senior manager. He is the only person in the group with a complete understanding of AIMCo's investment management systems and processes. The Department of Finance and Enterprise should engage in a succession plan process for the IAR group which involves hiring more staff to reduce workloads and allow for better cross-training and review of work. Qualified professional accountants would be the best candidates for management positions within this highly specialized group.

Implication and risks if recommendation not implemented

Without sufficient people with expertise in investment accounting, and time budgets which allow for increases in number of investment pools and complexity of investment transactions, the IAR group would be unable to issue timely, accurate and complete financial statements for AIMCo clients.

1.2 Donated funds—Alberta Heritage Scholarship Fund

Recommendation

We recommend that the Department of Finance and Enterprise develop a process to ensure complete, accurate and timely recording of donations to the Alberta Heritage Scholarship Fund.

Background

Fund receives donations

The Alberta Heritage Scholarship Fund receives contributions from other ministries and government departments for specific scholarship programs. In 2007-08 a program within the Access to the Future Fund provided matching payments for donations to the Apprenticeship scholarships program. At the end of the year the Access to the Future Fund accrued a liability for eligible matching payments to the Scholarship Fund. The Access to the Future Fund is administered by the Ministry of Advanced Education and Technology.

Criteria: the standards we use for our audit

The Department of Finance and Enterprise should have a process in place to inform the Investment Accounting and Reporting Group (IAR) of accruals payable to the Scholarship fund. Donations should be recorded accurately and in the correct period.

Our audit findings

Donation not communicated

In May 2008, IAR staff learned that Advanced Education had accrued a donation of $725,575 payable to the Scholarship Fund on March 31, 2008. This donation had not been communicated to IAR. After the year-end was closed, the IMAGIS general ledger was re-opened to record the amounts receivable and donation revenue.

No evidence of process

We did not find evidence of a process to ensure scholarship fund donations are recorded in a complete, accurate and timely manner.

Implications and risks if recommendation not implemented

The absence of a process to facilitate prompt and accurate recording of donations from Advanced Education may lead to misstatement of the financial statements of the Scholarship Fund.

1.3 Payroll bank reconciliations

Recommendation

We recommend that the Department of Finance and Enterprise work with its service provider to ensure that bank reconciliations for the government's payroll disbursement bank account are promptly prepared and reviewed.

Background

Service provider prepares bank reconciliations

The Department's service provider prepares the monthly bank reconciliation statement for the Payroll Disbursement Bank Account. Under the Banking Operations Agreement with the service provider, they are required to present the monthly bank reconciliations to the Department by the 19th business day of the following month.

Criteria: the standards we used for our audit

Bank reconciliations should be:

- prepared promptly.
- reviewed and approved by an officer independently of the preparer.

Our audit findings

Bank reconciliations not promptly prepared

We selected two months for testing the payroll disbursement bank account reconciliation and found that:

- The reconciliation for November 2007 was signed as reviewed and approved by the Department on February 1, 2008. Although the service provider presented the bank reconciliation on December 21, 2007, they did not provide all the supporting documents that the Department needed to promptly review the bank reconciliation.
- The Department obtained the March 2008 reconciliation from the service provider on May 29, 2008. Although the service provider prepared the bank reconciliation on April 25, 2008, the Department did not promptly follow up to obtain a copy of the reconciliation. By May 29, 2008 the Department had not obtained the supporting documents for items included on the reconciliation and had not finished reviewing the reconciliation.

Implications and risks if recommendation not implemented

Without the service provider's timely submission of payroll bank reconciliations, and prompt review by the Department, unexplained differences, fraud or errors may go undetected. Misstatements in the financial statements may result.

1.4 User access

Recommendation

We recommend that the Department of Finance and Enterprise review all user access to business data to ensure that unauthorized changes are prevented and appropriate incident monitoring exists to ensure systems issues are promptly resolved.

Background

Department relies on access controls

The Department of Finance and Enterprise's computer systems provide for security, integrity, confidentiality and availability of business data. The Department relies on access security and controls over user accounts to ensure that access to business data is appropriately controlled.

In computer systems, some users have more privileges than normal users have. These privileged users can access business data, including data used in determining significant amounts in the financial statements. At times, some privileged users need access to business data to resolve system issues and support business users.

Criteria: the standards we used for our audit

The Department should:

- properly control user access, including access of privileged IT users, to business data.
- formally document performance of control procedures over user access.
- ensure that access to business data allows prompt investigation and resolution of systems issues.

Our audit findings

No reviews of user access

We observed that formal regular reviews of user access do not occur. We also observed that documentation of performance of control procedures over inactive users did not exist.

Some powerful users have access to important spreadsheets

In addition, we examined user access to TaxMod, a spreadsheet used by the Department to estimate amounts relating to Personal Income Tax, Canada Health Transfer and Canada Social Transfers, which are significant amounts in the financial statements. TaxMod is located in a network folder.

Management performs several checks on the data within TaxMod, and business user access is appropriately restricted. Some IT user access to business data is necessary to enable prompt investigation and resolution of systems issues. However, 24 IT personnel have access, because of their privileged user access, and an additional 8 generic user IDs, not identifiable with a particular person, also have access.

Implications and risks if recommendation not implemented

Without proper controls over user access, unauthorized changes to business data may occur. Misstatements in the financial statements may result.

1.5 Use of spreadsheets in processing taxes

Recommendation

We recommend that the Department of Finance and Enterprise, Tax and Revenue Administration, review the use of spreadsheets in processing Insurance Corporations Tax. We also recommend that the Department assess the costs, benefits and risks of using spreadsheets, and consider whether using existing established computer systems is more appropriate.

Background

Taxes processed in established systems

The Department of Finance and Enterprise has established business processes and computer systems for the administration, assessment, and collection of various taxes and credits, including the processing of taxpayer returns. Established computer systems have systems-based controls, such as automated validation edits, transaction logs, change-management procedures, and audit trails.

Criteria: the standards we used for our audit

Business processes and computer systems should ensure data integrity and security. The level of data integrity and security controls should be commensurate with the risk and significance of the taxes involved.

Our audit findings

The Department collected approximately $260 million of Insurance Corporations Tax for the year ended March 31, 2008. The Tax is based on the premiums written by insurance companies operating in Alberta. About 300 companies file an annual return.

Insurance tax processed outside established systems

The Department has internal control procedures, including manual procedures, to assess the amount of Insurance Corporations Tax collected. Insurance Corporations Tax, in part, is processed in a spreadsheet. Spreadsheets lack the data integrity and security controls over transaction processing that the established computer systems have.

Implications and risks if recommendation not implemented

Without proper controls, errors may not be prevented, or detected and corrected. Misstatements in tax amounts in the financial statements may result. As well, incorrect assessments may occur, resulting in loss of tax revenue.

1.6 Estimating corporate income tax refunds—implemented

Need to improve estimates

In our *2006–2007 Annual Report* (vol. 1, page 146), we recommended that the Department improve its method for estimating corporate income tax refunds payable and adjust forecasted corporate income tax revenue to reflect actual results as soon as the information is available.

Estimation method changed

In 2007-2008, the Department changed its method of estimating corporate income tax refunds payable, which is now based on prior years' refunds paid on assessments. We agree with the change in method. The Department has recorded corporate income tax revenue and corporate income tax refunds payable in accordance with the new method.

1.7 Journal entries—implemented

Some journal entries not reviewed

In our *2006–2007 Annual Report* (vol. 2, pg 86) we recommended that the Ministry ensure that journal entries are properly approved and that the incompatible functions of preparation and approval are properly segregated.

Reviews occur

In 2007-2008, management undertook a review of journal entries posted within the Department to ensure that entries are properly approved. Management has identified controls that would detect incorrect or fraudulent journal entries. We are satisfied that at least two individuals are to see each journal entry, and that the risk of an error has been reduced.

2. Alberta Treasury Branches

2.1 Internal controls over fair-value calculations of investments and derivatives

Recommendation

We recommend that Alberta Treasury Branches improve controls over fair-value calculations of its investments and derivatives by:

- **implementing a peer-review-and-approval process for inputs and assumptions used in the valuation models.**
- **using a benchmarking process—as an alternative process for derivatives—to assess reasonability of its calculated fair values.**
- **documenting the results of this work consistently.**

Background

Valuation techniques used

ATB calculates the fair value of its derivatives and investments using market valuation techniques with input of several variables such as interest rates, volatility factors and cash flows. Management also makes assumptions in certain valuations. Staff manually enter data into different systems or spreadsheets to calculate the fair values of derivatives and investments for financial reporting.

Criteria: the standards we used for our audit

ATB should ensure that:

- an appropriate level of peer review is performed over the data inputs used in calculating fair values. Alternatively, for derivatives, ATB should compare its calculated fair value to the fair values reported by counterparties[2] as a benchmark to assess reasonableness.
- documentation and approval of the valuation results, support for the variables and assumptions used in the valuation, and documentation to show the peer review of the data inputs is maintained. This formal process should occur periodically, likely quarterly, to match the financial-reporting process.

Our audit findings

Data not reviewed and results are not approved

For both derivatives and investments, there is no peer review of the manual data input into the fair value calculations for accuracy. And we could not find evidence that the valuation results were approved. For both derivatives and investments, only one person is involved in the calculation process.

For derivatives, ATB told us that it compares its calculated fair values to the counterparty's fair values as a check for reasonableness and this was a compensating control. However, there was no evidence to show that this compensating control regularly occurred or that the results of the comparisons were analyzed and approved. Counterparty valuations are not always received promptly each quarter and some valuations are never received from certain counterparties.

Errors have occurred

At March 31, 2007, fair-value differences for certain option contracts with one counterparty were more than $4 million. A fair-value difference is the difference between ATB calculated fair-value and the counterparty's fair-value. We identified this valuation error by comparing the two fair-values. This error was corrected for financial reporting, but ATB's internal control systems did not find it.

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[2] A counterparty is a legal term which means the party to a contract. In this chapter, it is a counterparty to a derivative contract.

Implications and risks if recommendation not implemented
Without strong controls for determining the fair value of derivatives and investments, the risk of misstating financial results is considerable.

2.2 Derivative credit limits in report

Recommendation

We recommend that Alberta Treasury Branches promptly update the derivative credit limits disclosed on the daily derivative credit exposure report.

Background

Client derivative line of business started in 2006-07

ATB started its client-derivative line of business in 2006-07. Client derivatives are derivative contracts that ATB sells to its customers and include oil, natural gas, and foreign currency derivatives.

ATB does not bear market risk from client-derivative transactions because it offsets all transactions in the market with a back-to-back transaction with other financial-institution counterparties. At March 31, 2008, the fair value of ATB's client-derivative assets was $28.2 million, offset by liabilities of $28.0 million.

Credit risk exposure exists

But ATB does bear credit risk related to its client-derivative program. ATB prepares a daily credit-exposure report to monitor credit exposure on client derivative deals. ATB compares client derivative credit exposure to the client's derivative credit limit. If the credit exposure is close to or exceeds the client's derivative credit limit, ATB must act to limit or reduce its credit exposure on that client.

Criteria: the standards we used for our audit
The daily derivative credit exposure report should report current client derivative credit limits.

Our audit findings

Credit limits did not agree

We examined two client-credit limits on the daily derivative credit-exposure report and in both cases the client's credit limit differed from the authorized credit limit.

Implications and risks if recommendation not implemented

The monitoring of ATB's client derivative credit risk exposure will be ineffective if inaccurate credit limits are reported on the daily derivative credit exposure report.

2.3 Controls for capturing non-consumer loan-risk ratings in its banking system

Recommendation

We recommend that Alberta Treasury Branches improve controls for capturing non-consumer loan-risk ratings in its banking system.

Background

Non-consumer loans are risk rated

ATB determines and assigns a risk rating to each non-consumer loan. Non-consumer loans are commercial, small business and agriculture loans. ATB determines or updates a risk rating when:

- a new loan application is completed.
- borrower requests new funds.
- it completes the annual loan review.
- a material or adverse change in borrower circumstances occurs.

In these cases, ATB re-calculates the risk rating and transfers the revised risk rating to the loan application. The loan application then goes through the required ATB approvals. The ATB lender then sends a request to ATB's Central Services to update the risk rating in the banking system.

ATB uses loan-risk rating information from its banking system to:

- track industry and market trends as part of management's oversight of the loan portfolio.
- calculate the general loan-loss allowance.
- review loan pricing for borrowers and ensure it matches credit risk.

Accurate data on credit risk in the loan portfolio allows management to understand credit risk in the loan portfolio. The general loan loss allowance is a significant estimate within ATB's financial statements.

Criteria: the standard we used for our audit

ATB should accurately and promptly capture its borrower's non-consumer loan-risk ratings in the banking system.

Our audit findings

Risk ratings did not match

We identified 5 instances in the 25 loans we examined at ATB's Corporate Financial Services in which the correct loan-risk rating on the loan application did not match the loan-risk rating recorded within the banking system.

Implications and risks if recommendation not implemented

ATB's monitoring of credit risk in its loan portfolio is less effective and the calculation of its general loan loss allowance less accurate if loan-risk rating data is incorrect.

2.4 Action plans to resolve internal control weaknesses identified by ATB's internal control group

Recommendation No. 29

We recommend that Alberta Treasury Branches validate and approve business processes and internal control documentation developed by its internal control group and implement plans to resolve identified internal control weaknesses.

Background

Internal control group documents controls

ATB has delegated two tasks to its internal control group:

- documenting business processes and internal controls for its significant financial-reporting processes.
- identifying internal control deficiencies and risks that may prevent ATB from meeting business objectives.

Business-process owners are individuals responsible for ensuring that internal controls for business processes, that operate under their oversight, work effectively. Owners review and approve the resulting business-process and internal-control documentation. They are also responsible to fix any identified internal-control weaknesses.

Criteria: the standards we used for our audit

ATB should ensure that business-process owners:

- review and agree with business-process and internal-control documentation.
- develop and implement an action plan to resolve identified internal-control weaknesses.

Our audit findings

Reasonable timeframes not set

ATB management has not set reasonable timeframes for business-process owners to:

- review internal control group's business process documentation and identified internal control deficiencies.
- complete remediation strategies.

Documentation not finalized

In April 2007, we obtained a draft report from the internal control group for one business process. The draft report had been given to the business-process owner and included numerous internal control weaknesses. As of April 2008, the business-process owner had not agreed with the draft report and had not developed an action plan to mitigate the internal control deficiencies. One other draft report on business-process documentation provided to the business-process owner in September 2007 was not finalized as of April 2008. We have not looked at or assessed the timely completion of all draft internal control group reports shared with business-process owners.

Implications and risks if recommendation not implemented

ATB is not deriving the full benefit of its internal control group if reports are not finalized and internal control weaknesses are not promptly solved. If ATB management has to certify the effectiveness of ATB's internal controls in the future, it will be better able to do so if business process and internal control documentation is finalized and internal control weaknesses are promptly fixed.

2.5 Criminal-record checks

Recommendation No. 30

We recommend that Alberta Treasury Branches improve its hiring processes to ensure that criminal-record checks are completed before people start working for it.

Background

Business rules require reference checks

ATB has a business rule that requires all prospective employees to undergo a criminal-record check. The rule does not explicitly state that this check is required before an employee starts working with ATB. As a result, employees can start working before their criminal-record check is completed and the results reviewed.

Criminal record checks are critical

As a financial institution, ATB is responsible for much personal and corporate information, including bank accounts, credit cards, and social insurance numbers. Customers trust ATB to ensure this information is secure and off-limits to criminals, such as identity thieves, who could use this information maliciously. ATB employees in certain positions also have access to cash and negotiable instruments.

A person's past can often predict how they will act in the future and criminal-record checks are a strong preventative control.

Criteria: the standards we used for our audit

ATB should complete criminal-record checks on prospective employees before it hires them.

Our audit findings

Criminal record checks not always completed prior to start date

Our testing of 15 employees found 11 cases where ATB did not do a criminal-record check before the employee started work at ATB. The time between when the employee started and when ATB finished the criminal-record check ranged from 2 to 57 days. The average was 21 days. These employees worked throughout ATB, not just in a particular area. In one case, a rehire of a former employee, no criminal-record check was done.

The roles of these employees were diverse and included a senior team leader in central administration, a loan-service clerk in retail loans processing, and 5 customer-service representatives. These positions have access to confidential information; some of them have access to cash in the branches. They are not low-risk positions without opportunity; rather they have enough responsibility that someone could commit fraud or obtain confidential customer information.

It takes approximately two days to complete a criminal-record check. ATB should have enough time to complete a check before a person starts work.

Implications and risks if recommendation not implemented

ATB is subject to increased risk of theft, fraud and loss of confidential information if it does not complete criminal record checks before an employee starts. ATB also risks its reputation if an employee commits a high-profile fraud and ATB did not check the background of the employee.

2.6 Securitization policy and business rules

Recommendation No. 31

We recommend that Alberta Treasury Branches develop and implement a securitization policy and securitization business rules.

Background

ATB securitized $250 million of its mortgages

ATB now participates in the mortgage-securitization program that Canada Housing and Mortgage Corporation (CMHC) offers to financial institutions. ATB securitized approximately $250 million in CMHC-insured mortgages between March and June 2008. ATB started its securitization program to help fund its planned asset growth by improving its liquidity and diversifying its funding base.

Criteria: the standards we used for our audit
Management should develop and implement an appropriate securitization policy and business rules that help ATB achieve its objectives.

ATB should ensure the policy and business rules cover the following:

- objectives of the securitization program.
- risks and approach to risk management.
- roles and responsibilities.
- securitization activities allowed.
- accounting policies.
- key assumptions used in accounting for securitization activities.
- compliance with CMHC program guidelines.
- reporting requirements.
- performance-reporting metrics.
- internal controls.

Our audit findings

Policy and business rules not in place

ATB completed a $250 million securitization transaction without having a comprehensive Board-approved securitization policy or securitization business rules in place.

Implication and risks
ATB may not manage its securitization risks appropriately or achieve its objectives of diversifying its funding base and improving liquidity if management does not develop and implement a comprehensive securitization policy and business rules.

3. Alberta Investment Management Corporation (AIMCo)

Investment operations transferred January 1, 2008

On January 1, 2008, the investment operations of the Department of Finance and Enterprise, previously, Alberta Investment Management (AIM) were transferred to Alberta Investment Management Corporation (AIMCo). AIMCo is a new crown corporation responsible to the Minister of Finance and Enterprise.

AIMCo manages investments with a market value of about $75 billion which includes the portfolios of large Alberta pension funds, the Alberta Heritage Savings Trust Fund, Alberta endowment funds, Government funds, the Consolidated Cash Investment Trust Fund and investments of other Alberta government funds and entities, including the Workers' Compensation Board.

We tested internal controls

We audited the investments managed by AIM before January 1, 2008 and by AIMCo after that. Our work was done centrally at the pooled-fund level and included assessing the design and operating effectiveness of internal controls over the administration of investments. We reviewed each major control process and performed walkthroughs to improve our understanding and to identify opportunities for improvement. We used substantive audit procedures to test manual control systems that accrue investment income, record investment management expenses and value investments.

Administration needs improvement

We have identified the following areas for improvement in administering pooled fund investments. Overall, AIMCo needs to become more control conscious, to focus senior management attention on internal control and to work to obtain formal internal control certification.

3.1 Internal control certification

Recommendation No. 32

We recommend that Alberta Investment Management Corporation introduce a process to prepare for internal control certification by:

- **ensuring that its strategic plan includes internal control certification.**
- **developing a top-down, risk-based process for internal control design.**
- **selecting an appropriate internal control risk-assessment framework.**
- **considering sub-certification processes, with direct reports to the Chief Executive Officer and Chief Financial Officer providing formal certification on their areas of responsibility.**
- **ensuring that management compensation systems incorporate the requirement for good internal control.**
- **using a phased approach to assess the design and operating effectiveness of internal controls.**

Background

AIMCo may need 3rd-party assurance on internal controls

An assessment of internal control can take many forms. Auditors can provide a CICA Section 5970 report; management can commission a Sarbanes Oxley 404 or Bill 198[3] internal control review; an organization can provide full senior executive certification of internal control over financial reporting. Alberta Investment Management Corporation (AIMCo) is publicly accountable to its investors, who may soon ask it to provide third-party assurance on the quality of its internal control.

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[3] In the United States, Section 404 of the Sarbanes-Oxley Act of 2002 (SOX 404) requires each annual report of a public company to include a report by management on the company's internal control over financial reporting. In Canada, an Ontario legislative bill, Bill 198, provides equivalent legislation. It is commonly known as the "Canadian Sarbanes Oxley" Act or CSOX.

Internal control is defined as the processes established by management to provide reasonable assurance about achievement of the organization's objectives for operations, reporting and compliance. When Chief Executive Officers (CEO) and Chief Financial Officers (CFO) make internal control processes a top priority, their direct reports will also make quality internal control a top priority.

A well-designed internal control system provides reasonable assurance that client investments are safeguarded and that accurate and reliable investment transactions and performance measures are reported to investors promptly. Management should select an appropriate control framework, document its approach to assessing risk and appropriate control, and include some level of testing.

Many organizations have established sub-certification processes with direct reports to the CEO and CFO providing formal certifications on the effectiveness of internal controls for their areas of responsibility. Processes for certifying the design and operating effectiveness of internal controls should follow a phased approach, including reviewing risks, assessing the control environment, reviewing relevant control information, identifying relevant control systems, assessing other entity controls for all business processes, assessing findings, and forming conclusions.

Criteria: the standards we used for our audits

AIMCo's strategic plan should include obtaining internal control certification.

AIMCo should use a top-down risk-based approach to develop processes for assessing the design and operating effectiveness of internal controls and base them on a recognized internal control framework.

The CEO and CFO should lead the process, which should be integrated with management compensation and accountability structures.

AIMCo should use a phased approach.

Our audit findings

Internal control certification not in strategic plan

AIMCo's 2008-2009 strategic plan does not include obtaining internal control certification. For the past year, the internal audit and compliance (IACO) group has been leading a process of documenting, evaluating and re-engineering AIMCo's internal control processes using a Sarbanes-Oxley Section 404

(SOX 404) framework[4]. It was selected by AIMCo as it is the most commonly used framework. This work was done to understand, document and improve the internal controls at AIMCo and was not specifically targeted at obtaining internal control certification.

The CEO and Chief Operating Officer, although involved, have not taken an active role in the process. They and AIMCo managers have largely delegated assessment of the design, operating effectiveness and re-engineering of internal control processes to the Chief IACO officer. The AIMCo management group is not using sub-certification of internal processes under their supervision.

Bonuses based on investment performance

The management bonus structure is based on investment performance and does not require that managers work to improve the internal control environment in their departments. Management attention is not focused on internal controls. Two-thirds of our prior year recommendations for internal control improvement have not been implemented.

Implications and risks if recommendation not implemented

Weak internal control processes at AIMCo may not be detected and re-engineered, and it may not be able to provide internal control certification if requested to do so by investors. Management may receive bonuses even though the internal control processes in their departments are inadequate. AIMCo risks fraud, error and investment losses.

3.2 Conflicting responsibilities for internal audit

Recommendation

We recommend that Alberta Investment Management Corporation rectify the conflicting job responsibilities of its Chief Internal Audit and Compliance Officer.

Background

Chief IACO Officer performs critical functions

The Internal Audit and Compliance (IACO) group at AIMCo performs critical functions. The chief of the group is the head of the internal audit group, head of the compliance group and member of the AIMCo executive and audit committees. The chief has to implement external and internal audit recommendations and lead the development of the internal control framework.

Many of the responsibilities listed above are normally those of a Chief Financial Officer (CFO). External and internal auditor recommendations are usually dealt with by the CFO who works with operational management to ensure that recommendations are implemented. Internal audit does not typically implement its own recommendations, due to the clear conflict of interest.

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[4] SOX 404 requires the development of an internal control framework for the purpose of fraud risk mitigation and the protection of shareholders.

Criteria: the standards we used for our audits

AIMCo should have clearly defined roles and responsibilities for the CFO, Internal Auditor, and Compliance Officer. This segregation of duties should ensure that no single person is responsible for testing compliance with internal control processes, making internal control recommendations, developing new internal control processes, working with auditors to implement internal control recommendations, and reporting on the implementation of the revised processes.

Our audit findings

Officer performs conflicting functions

The Chief IACO Officer performs many conflicting job functions—including implementing and reporting on the implementation of his own recommendations. AIMCo senior management takes a secondary role in implementing internal and external auditor recommendations by delegating this responsibility to the Chief IACO Officer. The CFO role could assume many of the responsibilities that IACO now performs.

Implications and risks if recommendation not implemented

Conflicting roles for the AIMCo Chief IACO Officer nullify the effectiveness of both the internal audit and compliance functions and may increase the risk of undetected error and fraud.

3.3 Procedures for valuing real estate investments

Recommendation

We recommend that Alberta Investment Management Corporation improve its procedures for valuing real estate investments by:

- **developing a detailed accounting policy which considers contingent liabilities such as development and incentive fees.**
- **segregating the valuation of real estate investments from the portfolio management role.**
- **developing procedures to reconcile the fair value and cost of real estate investments in the investments general ledger to the partner accounts in the audited financial statements of the real estate holding companies.**

Background

$5 billion in real estate investments

AIMCo manages real estate investments with a fair value of about $5 billion. These real estate investments are in holding companies and may be fully or jointly owned. Properties under development may be subject to development agreements. Agreements with co-investors may include incentive or performance fees to be paid if certain real estate values are achieved.

The accounting policy for valuing real estate investments states that the fair value of real estate investments is reported at the most recent appraised value, net of any liabilities against the real property. There is no specific definition of what a liability against real property is.

Real estate appraisals adjusted

The current valuation is performed by the AIMCo real estate portfolio management group. The portfolio managers obtain annual third-party appraisals for all properties. Capital expenditure, development and incentive agreements for the properties are reviewed. The appraised value may be reduced by future capital expenditures, cost of potential sales, contingent incentive fees, promotion or development fees and fair value adjustments for mortgage debt. The Valuation and Fund accounting group uses the calculations of the real estate portfolio management group to arrive at the final fair value recorded in the investments general ledger.

Holding company financial statements and budgets are prepared by the appointed building asset managers who are also responsible for managing the overall operation of the real estate property. Audited financial statements of the real estate holding companies are obtained within six months after year end.

Criteria: the standards we used for our audits

Adjustments to property appraisals should comply with a detailed valuation policy that considers market value of mortgages, capital expenditure agreements, development agreements, incentive agreements, and other contingent liabilities.

There should be segregation of duties between the portfolio management group and investment administration group so that managers who are paid based on performance of the real estate investment pool do not also prepare the pool valuation.

The fair value and cost of real estate investments in the investments general ledger should be reconciled to the partner accounts in the audited financial statements of the real estate holding companies to ensure that all audit adjustments are reflected in the general ledger accounts.

Our audit findings

No audit evidence for $41 million in adjustments

The manager of the real estate group prepared the valuations for the pool. The appraised values for 11 properties were adjusted down for contingent liabilities totalling $121 million. These contingent liabilities included future year's projected capital expenditures, development fees, incentive fees, promotion fees and costs of future sales. Documentation supplied by the real estate portfolio manager did not provide appropriate audit evidence to support $41 million of these adjustments.

The accounting policy for real estate investments did not consider contingent liabilities which included capital expenditure agreements, development agreements and incentive agreements.

Real estate portfolio managers received bonuses which were based on the fair value returns from real estate investments, derived from pool valuations.

We were unable to find evidence of a process to reconcile the cost and fair value of the real estate holding companies in the investments general ledger to the partner accounts in the audited financial statements of the holding companies.

Implications and risks if recommendation not implemented

If the real estate group assesses real estate fair values—without an independent review by the investment administration group—AIMCo risks errors, misstated transactions, inappropriate compensation and reporting of real estate gains and losses in inappropriate periods.

Lack of reconciliation to audited values could lead to errors and misstated transactions.

3.4 Ensuring completeness and accuracy of private equity partnership investments—recommendation repeated

Recommendation No. 33

We again recommend that Alberta Investment Management Corporation reconcile its investments in private equity partnerships to the audited partnership financial statements.

Background

Private equity investments held through limited partnerships

In our *2006–2007 Annual Report* (Vol. 2, page 92), we recommended that AIMCo reconcile its investments in private equity partnerships to the audited partnership financial statements. AIMCo manages 11 private equity pools held through limited partnerships in which the Crown holds a direct interest or an indirect interest through a Crown Corporation. These partnerships are in Canada, the United States and elsewhere. Holding companies' financial statements are externally audited and made available to AIMCo within six months after their year end.

Criteria: the standards we used for our audit

The partnership interest recorded in the investments general ledger should be reconciled to the audited partnership financial statements annually. The general ledger should be adjusted for differences.

Our audit findings

AIMCo reconciled three pools

To reconcile private equity pools, AIMCo completed:

- financial statement reconciliations and adjustments for the Timberland pool up to December 31, 2007.

Only Timberland pool adjusted

- financial statement reconciliations for the FP05 and GP07 private equity pools as of September 30, 2007 but did not make any adjustments.

But it did not prepare any reconciliations for the remaining nine private equity pools. The Timberland pool is a separate pool, outside of the private equity pools.

Implications and risks if recommendations not implemented

Private equity investment costs, fair values and income may be inaccurately reported in the investments general ledger resulting in incorrect investment returns.

3.5 International Swaps and Derivatives Association Agreements

Recommendation No. 34

We recommend that Alberta Investment Management Corporation regularly review its International Swaps and Derivatives Association agreements to ensure that they protect it from the risk of default by its counterparties.

We also recommend that the Corporation document the reasons for any changes to the standard form of the agreement.

Background

AIMCo signs ISDA agreements with counterparties

AIMCo has documented its derivative policy in a compliance manual. The policy allows derivative (swap) deals only with approved counterparties who have good credit ratings, A+ and above. Counterparties are approved by the Derivative Risk Management Committee.

AIMCo complies with investment industry requirements and ensures that both parties sign an International Swaps and Derivatives Association (ISDA)[5] agreement.

AIMCo's policy also requires all approved counterparties with a credit rating of AA-/Aa3 and below to sign a Material Adverse Change (MAC) clause in the ISDA agreement. The MAC clause is an indemnity agreement that gives AIMCo the option to terminate the deal or to transfer it to a second counterparty if the original counterparty's credit rating is downgraded below A-/A3.

Criteria: the standards we used for our audit

Due diligence requires AIMCo to have a documented process to review its counterparty agreements regularly. AIMCo should regularly review the ISDA agreements and their supporting schedules, including MAC clauses, for adequacy.

If any counterparty signs a non-standard ISDA agreement, AIMCo should document the reasons for any deviation from the standard agreement and review it regularly to ensure that the form of the agreement continues to be appropriate.

Our audit findings

Full agreements not signed

Two counterparties signed partial and not full MAC clauses. Their credit ratings then dropped to AA-/Aa3.

AIMCo's policy requires that all approved counterparties with credit ratings of AA-/Aa3 and below to sign a MAC clause in their ISDA agreement. The counterparties had signed partial MAC clauses with a termination provision. The full MAC clause includes an additional termination provision and an option to transfer the transaction to a second counterparty. The original counterparty must make reasonable efforts to facilitate the transfer. Without the full MAC clause, AIMCo could terminate the transaction, but may not be able to transfer it to a second counterparty.

The contract files had no documentation explaining the use of partial MAC clauses in the ISDA agreements with these two counterparties. Although no immediate threat of default by the two counterparties was apparent, their deteriorating credit ratings make this risk more likely.

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[5] ISDA is a global financial trade association which represents participants in the privately negotiated derivatives industry. ISDA has created a standardized contract (the ISDA Master Agreement) to enter into derivatives transactions. The ISDA Master Agreement contains general terms and conditions but does not include details of specific derivatives transactions. It is a pre-printed form with a manually produced schedule in which the parties are required to select options and may modify sections of the Master Agreement if desired.

We also found no evidence that AIMCo regularly reviews their ISDA agreements.

Implications and risks if recommendation not implemented

AIMCo may be unnecessarily exposed to losses from counterparty failure.

3.6 Controls over trading with approved counterparties

Recommendation

We recommend that Alberta Investment Management Corporation improve its processes for setting up and maintaining approved counterparties in the swap database system.

Background

Counterparties must sign appropriate agreements

AIMCo's counterparty trading policy states that it can engage in derivative transactions with counterparties that were approved by the Derivative Risk Management Committee and that have signed an International Swap and Derivative Association (ISDA) agreement. The ISDA agreement must include a Material Adverse Change (MAC) clause if the counterparty has a credit rating below AA-/Aa3. If the counterparty credit rating is below this level and a MAC clause has not been obtained, no trading can be done with that counterparty.

AIMCo uses a swap database system in which approved counterparties are maintained on a master file. When investment traders want to initiate a swap transaction, they begin by selecting an approved counterparty from a drop-down menu in the swap database system.

Criteria: the standards we used for our audit

Only approved counterparties with appropriate indemnity provisions should be set up in the swap database.

Our audit findings

Database included counterparties who had not signed

A counterparty was included in the counterparty trading list in the swap database system but it had not signed an ISDA agreement with AIMCo. Another counterparty with a credit rating of Aa3, had signed an ISDA agreement but not a MAC clause. This counterparty showed as suspended from trading, but was not removed from the counterparty trading list in the database. No derivative transactions had been made with either counterparty.

Implications and risks if recommendation not implemented

The lack of a strong system to remove unauthorized counterparties or those with poor credit ratings from the swap database system may allow traders to unknowingly enter into inappropriate derivative transactions. This may expose

AIMCo investors to potential losses from business failures of the counterparties.

3.7 Performance measurement review processes

Recommendation

We recommend that Alberta Investment Management Corporation improve its processes for management review and approval of investment performance information by implementing a review and approval process for investment performance reports.

Background

Investment performance reports prepared

The performance measurement group prepares the performance issue and performance unitization reports. The reports provide investment performance information that is the basis of performance reporting to portfolio managers and ultimately to investors. These reports are an important control to ensure that investment performance is being reported completely and accurately.

Criteria: the standards we used for our audit

A senior member of the performance measurement group should review investment performance information reports and document the review by signing or initialing the reports.

Our audit findings

No evidence of review

We found no evidence of review by the manager of the performance measurement group for all performance issue reports we tested. We also found no evidence that the group manager reviewed the performance unitization report for three out of six reports tested.

Implications and risks if recommendation not implemented

Lack of proper management review and approval of performance measurement reports indicates that preventive internal controls may not be functioning and could result in unidentified errors and inaccurate investment returns.

3.8 Controls over records management

Recommendation

We recommend that Alberta Investment Management Corporation maintain, file and be able to retrieve all hard-copy records supporting completed investment transactions.

Background

Hard copy records filed in vault

Many documents supporting the initiation, verification and review of completed investment transactions are kept only in hard-copy, or paper form. These documents are stored in the vault and are filed by AIMCo record management staff.

Criteria: the standards we used for our audit

All hard copy records supporting completed investment transactions should be appropriately maintained and stored to ensure easy retrieval for legal and audit purposes.

Our audit findings

Several reports not in vault

Investment administration division staff members could not locate the following reports selected for audit testing:

- Outstanding Fails and Reports of Adjustments dated between May 10 to 23, 2007 and August 11 to 26, 2007. Outstanding Fails reports identify cash not paid or received for the day. Reports of Adjustments list all the adjustments recorded in the investments general ledger by Trade Support for the specific day.
- Summary Statistics and Detailed Unmatched Transactions reports for specific dates from May 29 to October 16, 2007. Summary Statistics reports list the number of trades settled. Detailed Unmatched Transaction reports identify differences in amounts settled to what was recorded in the investments general ledger.

AIMCo staff searched and found a small number of the reports were misfiled. They did not find the remaining reports.

Implications and risks if recommendation not implemented

Missing documents could contain sensitive information that could expose AIMCo to legal risks. Transactions and events with no supporting documentation may indicate that fraudulent transactions have been recorded.

4. Alberta Capital Finance Authority

Deadlines to finalize financial statements, finish the audit, and schedule the Audit Committee meeting

Recommendation

We recommend that management and the Audit Committee of Alberta Capital Finance Authority extend the deadlines for:

- **finalizing the financial statements.**
- **completing the financial statement audit.**
- **scheduling of the Audit Committee meeting to approve the December 31, 2008 financial statements.**

Background

Complex new accounting standard

The new financial instruments accounting standard has introduced complexities to the financial statement closing and reporting process. The adoption of *International Financial Reporting Standards*[6] in 2011 will add more complexities. The Audit Committee meeting to approve the December 31, 2007 financial statements was scheduled for 6 weeks after the year end date. But before the Audit Committee meets, ACFA staff have to close the accounting records, calculate all fair values for financial instruments, and prepare draft financial statements and notes including all material disclosures required by Canadian accounting standards.

Criteria: the standards we used for our audit

ACFA management should:

- have enough time to prepare the financial statements in accordance with Canadian accounting standards. Management should ensure that the amounts reported in the financial statements are accurate and that all material disclosures required by Canadian accounting standards, including disclosures required by new standards, are included.
- make the draft financial statements and notes available to the auditors at the start of the audit and ensure that they contain few or no adjustments or omissions of required disclosures.

Our audit findings

Insufficient time to prepare financial statements

Management had only the same time to prepare the financial statements and complete the disclosures as it had last year—even though the process for closing and reporting on the financial statements became more complex.

The draft financial statements and notes provided to the auditors at the start of the audit required adjustment and additional disclosures.

Implications and risks if recommendations not implemented

The risk of misstatement – due to errors in applying accounting standards or doing calculations, or due to missing material disclosures – increases if management does not have enough time to properly prepare and review financial statements.

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[6] Canada is adopting International Financial Accounting Standards (IFRS) in 2011. Many of the IFRS are different than current Canadian accounting standards. ACFA will need to thoroughly understand IFRS and decide if their current accounting policies and practices will have to change. The financial statements for the year ended December 31, 2010 will have to be restated to conform to IFRS standards.

5. Alberta Securities Commission

5.1 Purchase policy

Recommendation

We recommend that the Alberta Securities Commission clarify its Purchase Policy to ensure compliance with the Trade, Investment and Labour Mobility Agreement.

Background

TILMA requirements for purchasing

The Trade, Investment and Labour Mobility Agreement (TILMA) is an agreement struck between the provinces of Alberta and British Columbia to reduce barriers to trade, investment, and labour in both provinces. Effective April 1, 2007, the Alberta Securities Commission (ASC) was required to comply with the provisions of TILMA when it was seeking to procure goods greater than $10,000, services greater than $75,000, and construction greater than $100,000. As part of the compliance, the ASC is required to undergo a public bidding process and the ASC must sign a contract with the successful bidder. Effective April 1, 2009, non-compliance can result in a fine of up to $5 million.

ASC's purchase policy is intended to comply with TILMA. The purchase policy also sets out signing limits for different levels of management.

Criteria: the standards we used for our audit

The ASC's purchase policy should be clearly communicated to staff and roles and responsibilities should be assigned to specific departments to ensure that TILMA is adhered to.

Our audit findings

Contradictions in purchase policy

The ASC's purchase policy contains contradictions and is difficult to understand. For instance, in Section 1 of the purchase policy, it states that all purchases of services greater than $25,000 require both a purchase order and a contract. However, in Section 2.2, it states that a service costing greater than $25,000 can be processed either through a contract or a purchase order. We also noted that in practice, the ASC will use either a purchase order or a contract but not both control documents.

Another contradiction was noted in Section 3 of the purchase policy. In that section, it states that all purchases of goods greater than $25,000 require a contract. However, all goods greater than $10,000 are required to undergo a public bidding process and the results of that process are to be documented by a written contract to ensure compliance with TILMA.

While there are exemptions from TILMA for certain goods and services, the exemptions were not completely defined within the purchase policy. Upon discussion with ASC staff, we were informed that the ASC wanted its General Counsel to determine if a good or service was exempt rather than to leave that determination with individual department managers. However, it states in Section 2.3 that staff should consult internal accounting staff in determining exemptions pertaining to purchase of goods or services.

Implications and risks if recommendation not implemented
Unclear or absent instructions increase the risk that the ASC will not comply with TILMA or internal control objectives.

5.2 Hosting and working sessions policies—implemented

In our *2004–2005 Annual Report* (page 198), we recommended the ASC update policies and improve controls over hosting and working session expenses. In our *2005–2006 Annual Report* (vol. 2, page 105), we noted that ASC had completed a draft copy of its hosting and working sessions policy. In our *2006–2007 Annual Report* (vol. 2, page 102), we noted the hosting and working sessions policies had been approved.

In our expense claim testing this year, no deviations were noted.

Performance reporting

Financial statements

Ministry and Department

We issued unqualified audit opinions on the financial statements of the Ministry and the Department for the year ended March 31, 2008.

We issued unqualified audit opinions for the year ended March 31, 2008 on the following entities that are consolidated within the Ministry:

Other consolidated entities

- Alberta Cancer Prevention Legacy Fund
- Alberta Heritage Foundation for Medical Research Endowment Fund
- Alberta Heritage Savings Trust Fund
- Alberta Heritage Scholarship Fund
- Alberta Heritage Science and Engineering Research Endowment Fund
- Alberta Investment Management Corporation[7]
- Alberta Risk Management Fund
- Alberta Securities Commission
- N.A. Properties (1994) Ltd.

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[7] For three months ended March 31, 2008.

- Provincial Judges and Masters in Chambers Reserve Fund
- Supplementary Retirement Plan Reserve Fund

We issued unqualified audit opinions for the year ended December 31, 2007 on the following entities that are consolidated within the Ministry:

- Alberta Capital Finance Authority
- Alberta Local Authorities Pension Plan Corp.
- Alberta Pensions Administration Corporation
- Credit Union Deposit Guarantee Corporation

We issued an unqualified audit opinion for Gainers Inc. for the year ended September 30, 2007.

Alberta Treasury Branches

We issued unqualified auditor's opinions for all of the financial statement audits we completed for Alberta Treasury Branches (ATB) and its subsidiaries (ATB Investment Services Inc., ATB Investment Management Inc., ATB Securities Inc., ATB Insurance Advisors Inc.) for the year ended March 31, 2008. We issued an unqualified audit opinion on the financial statements of ATB's Management Pension Plan for the year ended December 31, 2007.

We issued unqualified review engagement reports on ATB's quarterly financial statements.

A public accounting firm performed compliance audits of ATB's three subsidiaries (ATB Investment Services Inc., ATB Investment Management Inc., and ATB Securities Inc.) and reported directly to the applicable regulatory bodies. We reviewed the results of these audits:

- Mutual Fund Dealers Association of Canada's Financial Questionnaire and Report as at March 31, 2008.
- Investment Dealers Association of Canada's Joint Regulatory Financial Questionnaire and Report as at March 31, 2008.
- Compliance with applicable sections of National Instrument 81-102 as required by the Alberta Securities Commission for the year ended March 31, 2008.

Entities not consolidated within the Ministry

We issued unqualified audit opinions on the financial statements of the following entities for the year ended March 31, 2008 that are not consolidated within the Ministry:

- ARCA Investments Inc.
- Consolidated Cash Investment Trust Fund
- Provincial Judges and Masters in Chambers (Registered) Pension Plan

We issued unqualified audit opinions on the financial statements of the following entities for the year ended December 31, 2007 that are not consolidated within the Ministry:

- Local Authorities Pension Plan
- Management Employees Pension Plan
- Public Service Management (Closed Membership) Pension Plan
- Public Service Pension Plan
- Special Forces Pension Plan
- Supplementary Retirement Plan for Public Service Managers

Other reviews

We examined the financial statements, management letters, and audit files for the year ended December 31, 2007 for Alberta Insurance Council, a Crown-controlled corporation consolidated with the Ministry. A public accounting firm audits the Council.

We provided interim review reports on the Alberta Heritage Savings Trust Fund's quarterly financial statements to the Minister of Finance. The reports say that we are not aware of any material changes that are needed for these financial statements to meet Canadian generally accepted accounting principles.

Performance measures

No exceptions

We found no exceptions when we completed our specified auditing procedures on the Ministry's performance measures.

Health and Wellness

Summary of our recommendations

To improve delivery of mental health services in accordance with the *Provincial Mental Health Plan,* the Ministry needs to improve its systems for delivering mental health services to clients by developing standards and eliminating gaps in services—see page 162.

The Department should:
- complete a comprehensive risk assessment and develop a risk based audit plan for its compliance-monitoring activities—see page 300.
- improve controls for health facility infrastructure grants—see page 301.
- define roles and responsibilities and update policies and procedures for Province Wide Services—see page 303

Alberta Health Services—Calgary Health Region should improve:
- its information technology change management controls—see page 306.
- its information technology user access management controls—see page 307.

Alberta Health Services—Capital Health should improve:
- its information technology security controls—see page 308
- its information technology change management controls—see page 309.

Alberta Health Services—Peace Country Health should:
- improve its policies and processes for employee expense claims and corporate credit cards—see page 311.
- implement a sole-sourcing contracting policy—see page 312.
- improve its information technology user access controls—see page 313

The Health Quality Council of Alberta should:
- improve its process for conducting investigations into patient safety and health service quality matters—see page 317.
- provide guidance on use of legal assistance when conducting investigations—see page 319

Our audit findings and recommendations

1. Compliance monitoring activities

Recommendation No. 35

We recommend that the Department of Health and Wellness complete a comprehensive risk assessment and develop a risk based plan to improve the effectiveness of its compliance-monitoring activities.

Background

Monitors physician billings and health-care insurance plan activities

Historically, the Compliance Assurance Unit (the Unit) monitored compliance of physician billings and health-care insurance plan activities with policies and legislation. The Unit has also been assigned responsibility for monitoring compliance with standards for continuing care and infection prevention and control.

Criteria: the standards we used for our audit

The Unit should:

- complete a comprehensive risk assessment that guides its compliance-monitoring activities.
- develop a plan to monitor compliance with policies and legislation based on the risks identified.
- monitor and report on the results achieved.
- assess the effectiveness of compliance-monitoring activities.

Our audit findings

No risk assessment for activities monitored

The Unit has not completed a risk assessment. It has a draft risk assessment for physician billings and health care insurance, but it does not identify and assess all significant risks related to these activities. As the Unit's mandate grows to include monitoring compliance with standards for continuing care, and infection prevention and control, the risk assessment will also need to grow to cover these activities.

Compliance monitoring plan is general

The Unit has a draft audit plan for 2007–2008, but has not finalized it. This plan identifies the compliance-monitoring activities for physician billings and health care insurance, but it is general and does not link back to the risk assessment. It does not identify the objectives for the activities, sampling methodology, or approach. Nor does it include measures to assess the effectiveness of compliance-monitoring activities. Once the Unit develops the risk based plan, the Unit needs to periodically report progress towards achieving it.

Effectiveness of monitoring activities not assessed

The Unit has also not assessed the effectiveness of its current compliance-monitoring activities. Our review of its procedures for assessing physician billings found the following:

Acceptable response rate for provider verification letters not defined

Provider verification letters—The Unit has not defined what an acceptable response rate is and does not follow up on non-responses. The Unit verifies physician billings by mailing 3000 provider-verification letters to randomly selected patients each month. The response rate for these letters was 63% between April and December 2007. Without defining an acceptable response rate, it is difficult to determine if the procedure is effective.

Recoveries from weekly claim sampling low

Weekly claims sampling—The recoveries from this process are low ($3,800 between April and November 2007). The Unit selects a random sample of 175 to 225 physician claims processed in the previous week. It reviews each claim to verify that it was paid correctly under the Schedule of Medical Benefits and the Schedule of Allied Health Services, Rules, Regulations, and Registration requirements.

Criteria to identify unusual billings

Billing reviews—Between April and December 2007, the Unit recovered overpayments of $773,930 through this process. The Unit relies on complaints and usage rates to trigger billing reviews. It developed a list of criteria to identify potential areas for review in May 2007 but is still testing them.

Implications and risks if recommendation not implemented

Unit may monitor the wrong areas

Without a risk-assessment process, audit plan, and mechanisms to assess effectiveness of activities, the Unit may monitor the wrong areas and miss the right ones—mitigating low risks and failing to mitigate high risks. It may also waste resources.

2. Infrastructure funding for health facilities

Recommendation

We recommend that the Department of Health and Wellness improve controls over infrastructure grants for health facilities by implementing:

- **agreements with grant recipients that clearly outline terms and conditions, roles and responsibilities and reporting requirements;**
- **a process to obtain periodic reporting on project status.**

Background

Budget responsibility transferred to Alberta Health and Wellness in 2006

In 2006, budget responsibility for the Health Facilities Infrastructure Program transferred from the Department of Infrastructure (Infrastructure) to the Department of Health and Wellness (the Department). At that time, the Department and Infrastructure signed a Memorandum of Understanding (MOU) stating that:

- The Department and Infrastructure will jointly sign project approval submissions and recommend funding within the Government of Alberta.
- The Department will develop policies and procedures related to planning, approval and funding of health capital projects and programs. It will also report capital expenditures in its financial statements.
- Infrastructure will implement and manage approved projects, including developing policies, processes and procedures. Infrastructure will also monitor cash-flow requirements for approved capital projects.

Between April 1, 2006 and December 31, 2007, the Department disbursed $1.083 billion to health authorities in infrastructure funding for health facilities.

Criteria: the standards we used for our audit

The Department should:

- sign agreements with grant recipients before giving them grant money.
- use grant agreements to clearly outline terms and conditions, roles and responsibilities, and reporting requirements.
- implement policies and procedures that define the approval, payment and monitoring processes for capital grants.
- document and communicate the periodic reporting it requires from Infrastructure.

Our audit findings

No grant agreements for more than $1 billion in capital funding disbursed

Grant agreements—although the Department disbursed more than $1 billion in infrastructure funding by December 31, 2007, it did not have signed grant agreements for any of this funding. For all grant funding approved up to December 2007, a funding letter was signed by the Ministers of Infrastructure and Health and Wellness and sent to the grant recipient. The letter told grant recipients that their capital project and funding had been approved. But these funding letters do not identify the terms and conditions, roles and responsibilities, or reporting requirements for the funding. The Department has drafted a standard grant agreement for infrastructure funding—but has not finalized or used it.

Draft policies and procedures not finalized or implemented

Policies and procedures—the Department has a grant policy that defines the policies and processes for authorizing, paying, monitoring, and evaluating grants. The policy requires signed grant agreements for grants in excess of $15,000. It applies to all grants not specifically excluded. But management said the grant policy does not apply to infrastructure funding for health facilities, explaining that the policy has not been updated since the program was transferred to the Department. The Department has drafted policies and procedures for infrastructure grants but has not finalized or implemented them.

Reporting on project status not defined

Reporting on projects—after a capital project is approved, the Department relies on Infrastructure to manage it. The MOU requires Infrastructure to inform the Department about project status and provide information as requested or required. The Department has not defined the periodic reporting that it requires from Infrastructure to stay informed of project status. While the Department has access to Infrastructure's project-reporting system, this system has only financial information for a project. The Department and Infrastructure meet informally, with each other and funding recipients, but the Department does not receive any formal reporting from Infrastructure on project status.

Implications and risks if recommendation not implemented

Without policies, procedures, and signed grant agreements for infrastructure funding for health facilities, both the Department and grant recipients are uncertain about roles and responsibilities, terms and conditions, and reporting requirements.

Without proper reporting on projects, the Department cannot be fully aware of project status or problems. In addition, the Department may not get the information it needs to allow it to rely on Infrastructure's work. Without this information, the Department will not be able to ensure accountability for the funding disbursed.

3. Province Wide Services

Recommendation No. 36

We recommend that the Department of Health and Wellness:

- **define the role and the responsibilities of the Province Wide Services Advisory Committee.**
- **update the Province Wide Services Funding Procedures and Definitions Manual and follow it.**

Background

Specialized, complex or high cost services; $594 million for PWS funding in 2008

The Department of Health and Wellness (the Department) provides funding—through Province Wide Services (PWS)—for services that are specialized, complex, or high cost. The majority of PWS funding goes to the Calgary Health Region and Capital Health. The objective of PWS funding is to pay for a narrow band of important services that, because of their high costs, complexity, and relatively low service volumes, can be effectively provided at only one or two sites in the province. The Department's budget for PWS has grown from $303 million in 2001 to $594 million in 2008.

In our *2002–2003 Annual Report* (pages 154-157), we made three recommendations for PWS. We recommended the Department:

- clarify the mandate of the province wide services working group.
- review changes to the list of qualifying PWS services resulting from methodology changes.
- define what pre- and post-transplant services quality for PWS funding and determine their costs.

Criteria: the standards we used for our audit

The Department should have clearly defined terms of reference for the PWS Advisory Committee and the Committee should follow them.

The Department should have documented policies and procedures for PWS funding. The policies and procedures should define the processes required to be followed when methodology changes occur.

Our audit findings

PWS advisory committee not in place from 2004 to 2008

The Department established the PWS Working Group in 2002 to advise it on services that should qualify for PWS funding, but it did not clearly define the group's role or responsibilities. Since that time, the PWS working group was changed to an advisory committee but it has not operated for over four years.

In 2005, the Department developed a proposed framework for PWS. The framework included suggestions on the PWS services and a new committee structure that included expert advisory groups and draft terms of reference for the committee.

New PWS terms of reference not finalized or implemented

In January 2008, the Department formed a new PWS advisory committee. However, the Department has not finalized, approved or implemented the new Committee's draft terms of reference.

No review of PWS services since 2005

The last complete review of the services that qualify for PWS funding was done in 2005. The PWS committee was responsible for updating the PWS service listing and annually reviewing the list of qualifying services to ensure they continue to meet the PWS criteria. In the absence of a functioning PWS committee, the Department has updated the list of qualifying PWS services for certain services and drugs and for pre- and post-transplant services. Between 2005 and 2008, one service and three drugs were added to the PWS list. The Department's Health Authority Funding and Financial Accountability branch approved the additions. But it is not clear who is responsible for reviewing these recommended changes—in the absence of a PWS committee. The Department changed its funding methodology to comply with changes in national standards. However, it has not reviewed the list of qualifying services as a result of methodology changes.

PWS manual not updated since 1999

The Department has a PWS Funding Procedures and Definitions Manual (the manual). The manual defines the process for adding and removing health services and drugs and describes the funding methodology. But the manual has not been updated since December 1999. And since then, there have been changes to PWS, including changes to PWS committees and funding methodologies. The manual does not reflect these changes.

The Department needs to ensure there is clear responsibility for all critical PWS tasks and that its own processes and those of the PWS advisory committee are defined and match one another.

Implications and risks if recommendation not implemented
Without a well-defined mandate, the Committee may not understand its responsibilities. There is a risk that there could be duplication of effort between the Department and the Committee, as well as gaps. Without well-defined policies and procedures, services funded through PWS may not meet established criteria and the program may not meet its objectives.

4. Health care registration—implemented

In our *1998–1999 Annual Report* (No. 40—page 200) and in our *2003–2004 Annual Report* (No. 21—page 190), we recommend the Department of Health and Wellness improve controls over the health care registration system.

The Department has implemented our recommendation by:

Proof of eligibility required

- improving its monitoring controls for health-care applicants. The Department requires new applicants to provide proof of residency, identity, and legal entitlement to be in Canada, before issuing a personal health number (PHN). The health-care registration system will not issue a PHN until a customer service representative confirms, in the registration system, that an applicant has met all three eligibility criteria and documentation is on file to support the assessment. The Department also samples registrants to ensure they have met eligibility requirements and documentation is on file to support the assessment.

Potential duplicate records monitored and investigated

- investigating potential duplicate personal health numbers. The Department's Registry Integrity Unit has been using software to investigate the integrity of the information in the provincial client registry. As part of this review, the Unit searches for potential duplicate records and has a process in place to follow-up and resolve identified anomalies.

5. Outsourced environment—implemented

In our *2006–2007 Annual Report* (No. 27—page 106) we recommended that the Department of Health and Wellness obtain regular assurance that outsourced information and technology is properly controlled.

For the year ended March 31, 2008, the Department engaged an independent auditor to obtain assurance on internal controls for services provided by its primary service provider. We will continue to monitor that the Department is receiving assurance on its outsourced services on a regular basis.

6. Alberta Health Services—Calgary Health Region

6.1 Calgary Health Region—information technology change management controls

Recommendation

We recommend that Alberta Health Services—Calgary Health Region improve its change management policies and procedures, follow them and implement monitoring controls to ensure they are complied with.

Background

In our *2005–2006 Annual Report* (vol. 2, page 112) we recommended that the Calgary Health Region (the Region) improve its change management controls.

Criteria: the standards we used for our audit

The Region should have documented and effective change management procedures to log, review, approve, test and implement changes. Segregation of duties should also be enforced to request, approve and implement a change.

Our audit findings

Policies and procedures implemented but not followed

The Region has implemented formalized change-management policies and procedures, but documentation evidencing compliance is not retained and the policies and procedures are not always followed. As well, the Region does not have controls in place to monitor compliance with change-management policies and procedures.

Inadequate segregation of duties

There is also inadequate segregation of duties within the change-management process. Software developers have access to the production environment and the same developers who code changes also implement them. External contracted developers also have access to the production environment.

Implications and risks if recommendation not implemented

Unauthorized or inappropriate changes may be made, which could produce inaccurate results, incorrect information for management decisions as well as incorrect and misleading financial information.

6.2 Alberta Health Services—Calgary Health Region—information technology user access management controls

Recommendation

We recommend that the Alberta Health Services—Calgary Health Region update its user access management policies and procedures, follow them and implement monitoring controls to ensure they are complied with.

Background

Access controls key to data security

Access controls for computer systems and networks are one of the most important cornerstones of data security. Access controls ensure that users cannot make unauthorized or malicious changes to systems, applications, or the data in them. Access controls help ensure that financial and other business-critical data is complete, valid, available, and accurate.

Criteria: the standards we used for our audit

The Calgary Health Region (the Region) should have documented and effective procedures to control and monitor user access to infrastructure, applications and data. The Region should ensure these procedures are complied with.

Our audit findings

Procedure and monitoring deficiencies

The Region has implemented formalized user-access management policies and procedures and has formalized periodic user account reviews. However we found that:

- User-access management policies and procedures are not always followed nor are they fully formalized.
- User-access management policies have not been updated to reflect changes to operational processes.
- There is not a strong process for monitoring compliance with user-access management policies and procedures.
- Not all applications comply with the password policy requirements.

Implications and risks if recommendation not implemented
Inadequate controls over user-access privileges expose the Region to the risk of unauthorized access. Unauthorized access can result in the loss of data integrity, breaches of privacy and segregation of duties, unauthorized transactions, errors, and fraud.

6.3 Alberta Health Services—Calgary Health Region—contracting for consulting services – implemented

In our *2006–2007 Annual Report* (No. 30 – page 114), we recommended that the Calgary Health Region follow its contract-management policy and processes in awarding contracts for consulting services.

The Region has implemented our recommendation. We examined two contracts for consulting services; these contracts were awarded appropriately under the Region's contract-management policy and processes.

7. Alberta Health Services—Capital Health

7.1 Capital Health—information technology security controls

Recommendation
We recommend that Alberta Health Services—Capital Health improve its information technology security controls over user-access administration, privileged user accounts, security violations, and passwords.

Background
As part of our review of information technology (IT) general controls, we examined IT security controls over Capital Health's computing environment, focusing on the applications and supporting infrastructure for finance, payroll, human resources, and contract management.

Criteria: the standards we used for our audit
Capital Health should have documented and effective processes to control and monitor user access to infrastructure, applications and data. They should also ensure these processes are complied with.

Our audit findings

Inadequate monitoring and review of IT access

- The IT process for security-access administration (new users, terminated users, modified users) is decentralized to Capital Health departments. Three of the five departments have not formalized this process and do not consistently keep records of it. No review of user accounts and user access rights was completed during the year for purchasing, information systems, and HR users of financial applications and network accounts.

- There is no formal monitoring for potential inappropriate use of accounts with administrative-access rights for both the network and application databases.
- There are no formal periodic reviews of the network environment and financial applications for security violations. Logging is enabled; however, reviews occur only on an exception basis.
- There is no formalized password policy or standard.

Implications and risks if recommendation not implemented

The lack of strong controls over IT security increases the risk of inappropriate use and modification of data. It also puts the integrity of financial data at risk; data may be changed, deleted and disclosed without authorization.

7.2 Alberta Health Services—Capital Health—information technology change management controls

Recommendation

We recommend that Alberta Health Services—Capital Health improve its information technology change-management controls over testing, categorizing, and reviewing changes.

Background

Change management process implemented

Capital Health had implemented a formal change-management process during 2008 based on the Information Technology Infrastructure Library (ITIL) framework.

Criteria: the standards we used for our audit

Capital Health should have documented and effective change management procedures to log, review, approve, test and implement changes.

Our audit findings

Insufficient documentation

Three of ten sampled changes to the financial application had no testing documentation on file. There are no formal guidelines for what test results should be documented and retained.

Insufficient controls to ensure completeness

There is no single repository of all changes to the application. Changes to an application are tracked in each business area. In addition, there is no process to compare—for completeness—the changes recorded in the ITIL change-management tool to the applications.

No review of configuration changes

There are no reviews of configuration changes made to the applications. As well, there is no formal configuration-management database or version-control process for the applications to track changes.

Implications and risks if recommendation not implemented
The lack of strong controls over changes to applications increases the risk that applications may process inaccurate results, produce inaccurate information for management decisions, and produce incorrect and misleading financial information.

7.3 Alberta Health Services—Capital Health—business processes—implemented

In our *2006–2007 Annual Report* (page 110), we recommended that Capital Health review its underlying processes to ensure that it has reliable, accurate, and timely financial information for preparing financial statements.

Improved controls over purchases, employee benefit plans and special purpose funds

Management implemented the recommendation by taking the following actions:

- purchasing systems—management improved the controls over its purchasing systems and implemented a monthly process to follow up on outstanding purchase orders.
- employee benefit plans—these plans are now updated quarterly in the financial records.
- Special Purpose Fund accounts—management reviewed all special purpose funds, closed 89 dormant ones, and confirmed the classification of each fund as either externally or internally established. Management updated its policy to establish new funds.

7.4 Alberta Health Services—Capital Health—accurate financial information—implemented

In our *2005–2006 Annual Report* (No. 35, page 126), we recommended that management of Capital Health provide its Audit and Finance Committee with complete and accurate financial information.

Improved financial reporting processes and systems

Management implemented the recommendation by improving financial reporting systems and processes as follows:

- management improved its process to identify all significant estimates in the financial statements. Accruals are supported by monthly review processes and quarterly updates.
- the controls over payroll, purchases, payables, payments, revenues, receivables, receipts, and financial statement preparation are effective.
- management implemented a review process to prevent and detect errors in the monthly and quarterly financial statements presented to the Audit Committee.

8. Alberta Health Services—Peace Country Health

8.1 Peace Country Health—expense claims and corporate credit cards controls

Recommendation

We recommend that Alberta Health Services—Peace Country Health strengthen and follow its policies and processes for employee expense claims and corporate credit cards. We also recommend that Peace Country Health develop and implement policies and guidance on appropriate expenses for hosting and working sessions.

Background

81 corporate credit cards

At November 30, 2007, Peace Country Health (the Region) had 81 corporate credit cards, which paid for approximately $280,000 in expenses between April and November 2007.

Criteria: the standards we used for our audit

The Region should ensure that:

- expense claims and corporate credit card transactions comply with its policies and are appropriately approved.
- original, itemized receipts are provided for all expenses incurred through expense claims or corporate credit cards.
- it has policies for hosting and working sessions that require documentation of the individuals hosted and the purpose of the hosting event.

Our audit findings

200 corporate credit card and expense claim transactions examined

We examined a sample of employee expense claims and corporate credit card transactions for the period March – November 2007, including claims and transactions of Board members, the CEO, Vice Presidents, and Executive Directors. Our examination of 75 monthly corporate credit card statements (including 157 transactions from the statements) and 18 expense claims (including 43 transactions from the claims) found the following policy weaknesses and non-compliance cases:

Policy weaknesses

The Region has a corporate credit card policy and a travel-approval reimbursement policy, however the policies need to be improved:

No policies for hosting or working sessions

- the Region does not have policies for hosting or working sessions. Therefore, it is not clear when it is appropriate to incur these expenses—or what documentation is required to support them.

Unclear if detailed itemized receipts required

- policies on both corporate credit cards and travel and reimbursement state that original receipts are required. However clarification on the nature and extent of the support is required. In some cases, employees provided detailed itemized receipts; others only provided credit card slips. Without detailed itemized receipts, it is difficult for reviewers to assess the appropriateness of the expenses.

Business purpose not documented

- there is no requirement to document the business purpose for corporate credit-cards transactions.
- the Region has no expense-claim policy.

Cases of non compliance with existing polices

Supporting documentation not provided and transactions not approved

- In 12 expense claim transactions, no supporting documentation was provided.
- Twenty five monthly corporate credit-card statements were not approved by the employee's supervisor.

Implications and risks if recommendation not implemented

Ineffective controls can lead to fraud and abuse

Insufficient and vague policies, as well as ineffective control processes to monitor compliance with policies, can lead to abuse and fraudulent transactions and claims. The Region may reimburse employees or pay for expenses that are not for its business.

8.2 Alberta Health Services—Peace Country Health—contract documentation

Recommendation

We recommend that Alberta Health Services—Peace Country Health develop and implement a sole-sourcing policy for contracts and ensure that sole-sourcing is clearly documented and justified. We also recommend Alberta Health Services—Peace Country Health ensure contract amendments, including changes to deliverables, are documented and agreed to by both parties.

Background

Policies for tendering and obtaining quotes

Peace Country Health's (the Region) Tendering of Contracts and Request for Proposal Process says contracts will be clearly defined, competitively sourced, thoroughly analyzed and appropriately awarded. The Region's Competitive Quotes policy also says that competitive quotes must be obtained for the purchase of supplies, equipment and services from $1,000 to $100,000.

Contract entered into

The Region entered into a contract with an independent contractor in April 2007. The contract was for three months at $12,000 per month. It required the contractor to participate in developing and evaluating an accountability framework for the Region. It paid the contractor $72,000 between April and September 2007.

Criteria: the standards we used for our audit

- Contracting competitions should be open, fair and achieve good value. A sole-sourcing policy should be in place and followed. Sole-sourcing should be clearly justified and documented.
- Contract amendments, including changes to the term or contract deliverables, should be justified, authorized and documented.

Our audit findings

No sole-sourcing policy

No documentation for sole sourcing decision

The Region does not have a policy for sole-sourcing contracts. The only reference to sole sourcing is in the Competitive Quotes policy, which states that sole sourcing is an exception to the policy. Management told us that the Region's Strategic Leadership Team (SLT) agreed that they needed a dedicated resource to develop the accountability framework. The SLT meeting minutes identified that the CEO was to contact a specific contractor to develop the framework but we could not find any documentation evidencing why the Region sole-sourced the contract to the specific contractor.

Contract not amended for additional deliverables and extended term

The contract was extended for three months but no documentation explained the extension. The contract stated that the contractor was to participate in developing and evaluating an accountability framework. By reviewing documentation, we learned that the contractor also participated in developing a capital plan and researched the impact of population growth in Northern Alberta. These additional deliverables were not documented in the contract and the Region did not amend the contract for the extended term or the additional deliverables.

Implications and risks if recommendation not implemented

Without sufficient documentation to support contracting decisions, the Region will not be able to show that it used a clear and transparent process and that it adequately justified and supported its contract decisions.

8.3 Alberta Health Services—Peace Country Health—information technology user access

Recommendation

We recommend that Alberta Health Services—Peace Country Health establish a process to periodically review computer system user-access rights to ensure they are appropriate.

Background

Access controls key to data security

Access controls for computer systems and networks are one of the most important cornerstones of data security. Access controls ensure that users cannot make unauthorized or malicious changes to systems, applications, or the data in them. Access controls help ensure that financial and other business-critical data is complete, valid, available, and accurate.

Criteria: the standards we used for our audit

Computer system access should be approved by the appropriate official, removed promptly for terminated employees, and reviewed periodically to ensure it is appropriate.

Our audit findings

Access for terminated employees not removed promptly

The Peace Country Health (the Region) does not have formal policies or processes that require periodic review of computer system access rights. While the Region has implemented a process for setting up and removing access for new hires, terminations and transfers, it does not promptly remove access for terminated employees. We sampled five employees terminated during the year and found that access for two of them was not removed promptly—one terminated in August 2007 and the other in September 2007. Yet both employees still had access to the financial system in February 2008, when we completed our testing. If the Region had a periodic access-review process, management would have likely found that these terminated employees still had access and then terminated it.

Implications and risks if recommendation not implemented

Unauthorized users can access financial information. They can change and delete it, or make it public for fraudulent or malicious purposes.

9. Alberta Alcohol and Drug Abuse Commission (AADAC)

9.1 Improve controls over contracting—satisfactory progress

AADAC had to improve internal controls for contracting

In 2006–07, we recommended[1] that AADAC improve internal controls over contracting by ensuring adequate segregation of duties existed over the contracting process, and by monitoring contract deliverables.

Controls improved

AADAC has improved internal controls over contracting by:

- establishing an internal Contract Review Committee (CRC) to review all contracts and grants in excess of $10,000.
- providing contract training for all employees at a manager level and higher.
- reporting quarterly on all contracts and grants.

In all cases except one, the grant and contract files we reviewed during our work were well documented and properly approved, with deliverables verified and reviewed before payments were processed.

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[1] *Report of the Auditor General of Alberta—November 2006,* Recommendation No. 1 – pg. 14.

One grant paid outside established processes

But AADAC signed a $250,000 grant agreement in March 2008 and failed to follow established processes in two ways:

- the grant was approved outside of the CRC process—there was no evidence of CRC review.
- the grant agreement called for payments up to $250,000 when AADAC received invoices supporting expenditures for a media campaign by a third party. But AADAC paid the $250,000 two months before it received the supporting invoices.

Value for grant received but high risk

We are satisfied that, in this case, AADAC received value for the grant, but the risk of improper payments is high if proper procedures are not followed.

Proper segregation of duties evident

We also reviewed 10 other large-dollar grant agreements approved in March 2008. CRC approved 2 of them; the other 8 were approved by management, but not through the established CRC process. A key CRC function is to ensure adequate segregation of duties exists in the contracting and granting process. Segregation of duties was maintained on these grants, as appropriate approvals were received before the grant agreements were signed. However, CRC's rigor, transparency and authority may be questioned if there are deviations from the CRC process as a matter of expediency. As this was CRC's first full year of operation, we anticipate that AADAC will review these exceptions and make any necessary process adjustments.

What remains

To fully implement this recommendation, AADAC needs to ensure that controls over contracting are working effectively and CRC reviews all contracts in accordance with the policy.

9.2 Verify academic credentials and do criminal-record checks—implemented

AADAC needed to check backgrounds

In 2006–07, we recommended[2] that, for prospective employees, AADAC verify academic credentials such as university diplomas with granting institutions and do criminal-record checks according to its policy.

AADAC now checks prospective employees

We reviewed employment applications for manager level and higher positions hired in the year ended March 31, 2008. AADAC is verifying academic credentials and doing criminal-record checks on prospective employees and newly appointed expenditure officers.

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[2] *Report of the Auditor General of Alberta—November 2006,* Recommendation No. 2 – pg. 16.

9.3 Receive annual reporting on internal controls—satisfactory progress

Background

AADAC needed reports

In 2006–07, we recommended[3] that the AADAC Board, at least annually, receive reports from management on the design and effectiveness of AADAC's internal controls.

Our audit findings

Better controls as a result of audits

Since the release of our November 2006 report, AADAC has been audited by the Government of Alberta's Central Internal Audit Services and a third-party consulting organization. It has worked to strengthen its contracting processes and internal controls based on recommendations from these audits.

Regular reporting to Board needed for risk-management framework

To finish implementing this recommendation, AADAC needs to establish a regular routine of reporting to the Board on the design and effectiveness of internal controls, based on a risk-management framework.

10. Alberta Cancer Board cancer-drug programs—implemented

In our *2001-2002 Annual Report* (No. 25—page 140), we recommended that the Board improve systems for managing cancer-drug programs.

Improved monitoring of cancer-drug costs

The Board has implemented our recommendation by:

- improving its financial monitoring of cancer-drug costs. Management reviews monthly and quarterly drug costing and utilization reports.
- tracking information on patient outcomes and drug-treatment costs. The Board is also considering software that would allow it to extract data from multiple systems and produce information for further analysis.

11. Health Quality Council of Alberta (HQCA)—Investigative Approach

11.1 Summary

Health and Wellness Minister is responsible for HQCA

The Health Quality Council of Alberta is an independent organization legislated under the *Regional Health Authorities Act*[4] to measure, monitor and assess patient safety and health service quality. HQCA is accountable to the Minister of Health and Wellness.

HQCA investigates but does not regulate

HQCA conducts investigations at the request of the Minister or a Regional Health Authority (an Authority), and makes recommendations for improvement. It is not a regulator. For Minister-requested investigations, the Minister decides whether to accept recommendations; if he or she does, the Ministry of Health and Wellness (the Ministry) implements them.

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[3] *Report of the Auditor General of Alberta—November 2006*, Recommendation No. 3 – pg. 17.

[4] See Section 17 of the *Regional Health Authorities Act*. HQCA was established under the *Health Quality Council of Alberta Regulation* 130/2006 on July 1, 2006.

HQCA has no professional disciplinary role

While the HQCA is a health monitoring agency seeking to improve patient safety and health service quality through recommendations to improve systems, it leaves professional disciplinary actions that are identified in its investigations to the appropriate regulatory authorities. It has no authority to sanction any person or organization.

Examined HQCA's investigation processes

The objective of our audit was to determine whether HQCA has systems to ensure that its investigations are fair and complete. Our audit focused on policies and procedures for Minister-directed investigations. We did not audit or judge policy decisions related to recommendations made.

We used the HQCA's Minister-requested investigation of infection control issues at a Vegreville hospital (East Central Review) as the basis for our audit to better understand how HQCA does its work. HQCA issued a report on its investigation in July 2007.

HQCA has adequate systems

We conclude that HQCA has adequate systems to ensure that its investigations into improved patient safety and health-service quality are fair and complete, and its recommendations are supported. HQCA has developed a comprehensive set of policies to manage Minister-directed investigations. It had appropriate evidence to support the recommendations in its East Central Report.

HQCA still refining its processes

HQCA is still in a developmental stage and is refining its investigative approach and systems. HQCA seeks to continuously improve its policies for its investigative process to add value to health organizations that it reviews. We have identified ways for HQCA to further improve its policies and systems including:

Suggestions to further improve its practices

- improving its policy to provide better guidance to investigative teams on methodologies and standards.
- providing guidance on using legal assistance in investigations.

11.2 HQCA—Investigative Role Policy

Recommendation

We recommend that the Health Quality Council of Alberta improve its Investigative Role Policy by defining or providing guidance on:

- **methodologies for different circumstances.**
- **medical standards for planning and conducting investigations.**

Background

Various methodologies available

Various methodologies and procedures can be used for investigations. During the East Central Review, HQCA used several investigative methodologies including root-cause analysis, brainstorming, document reviews, collection of photographic evidence, individual and group interviews, sampling and process walkthroughs. Other procedures include "the 5 whys", hypothesis testing, means-end analysis, collection of video evidence, case studies, surveys, benchmarking, and statistical analysis. Each methodology or procedure has strengths and weaknesses.

Best practice guidelines for medical standards

Several widely respected international organizations issue best practice guidelines for a wide range of health topics—information that is critical to performing investigations because it helps to establish baselines for expected performance. Pre-selecting medical standards ensures that medical processes reviewed over time and at different sites are consistently evaluated.

Our audit findings

Policy has no guidance on various methodologies

HQCA's Investigative Role Policy does not include guidance on different review methodologies and procedures for different types of investigations. Generally, HQCA can be asked to review specific health issues (for example, Methicillin-Resistant Staphylococcus aureus or MRSA) or can be asked to review health-related systems to improve the effectiveness and efficiency of individual processes. The appropriate methodology will depend on the nature of the issue it is investigating.

Consultants used

HQCA is responsible to ensure the quality of its investigations and may use external medical consultants. Because external consultants may be unfamiliar with HQCA policies, explicit guidance on various review methodologies is critical. All members of the East Central review investigative team were consultants so the quality of the work relied heavily on their medical expertise and experience. Guidance from an inventory of methodologies would assist future projects where team experience in particular areas may be varied.

Numerous standards available

HQCA's Investigative Role Policy does not refer to acceptable medical standards to use in different types of investigations. During the East Central review, HQCA used the Canada Safety Association standards to establish review criteria. The following organizations publish source material that HQCA could have considered:

- World Health Organization.
- Association for Professionals in Infection Control and Epidemiology.
- Canadian Journal of Infectious Disease Medical Microbiology.
- Public Health Agency of Canada.
- Center for Disease Control and Prevention.
- Ontario Ministry of Health and Long Term Care.

In August 2007, the Ministry published its *MRSA Infection Prevention and Control (IPC) Guidelines*. Of the 11 basic infection control standards the

Ministry identified, the HQCA team did not include the following for their review purposes:

- patient placement practices.
- transportation of infectious patients.

HQCA contemplated these standards but did not consider them critical for the East Central Review.

Implications and risks if recommendation not implemented
Failure to identify appropriate medical standards and methodologies for different types of investigations may lead to inappropriate, inconsistent or missed observations.

11.3 HQCA—guidance on using legal assistance

Recommendation

We recommend that the Health Quality Council of Alberta provide guidance on use of legal assistance when conducting investigations.

Background
Activities requiring disciplinary action are to be directed to the appropriate professional body.

Our audit findings

Policy lacks guidance on legal advice

HQCA's Investigative Role Policy states that the appropriate authority is to be contacted if negligence or criminal intent is identified during an investigation. The Policy does not guide the teams by defining negligence or criminal intent, nor does the policy suggest the review team should use legal help in deciding when it should notify governing bodies. The East Central review team discussed with legal counsel the implications of gathering evidence under the *Alberta Evidence Act*. However, there was no indication that assessing or interpreting evidence of negligence or criminal intent was discussed.

Implications and risks if recommendation not implemented
Failure to seek legal assistance while considering whether negligence or criminal intent caused patients harm may compromise the completeness of investigations. As a result, negligence or criminal behaviour may go unreported to the appropriate authorities.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's reports on the Ministry and Department financial statements for the year ended March 31, 2008 are unqualified. The Ministry consolidated the health authorities and health boards using the modified equity method. The modified equity method is allowed as a transition to line-by-line consolidation, which will be required for the year ending March 31, 2009. Under line-by-line consolidation, the Ministry's capital assets would have been fully consolidated so net assets at March 31, 2008 would have increased by approximately $5.9 billion.

We issued unqualified auditor's reports on the financial statements for the year ended March 31, 2008 of the following entities:

- Alberta Alcohol and Drug Abuse Commission
- Alberta Cancer Board and Alberta Cancer Foundation
- Alberta Mental Health Board
- Calgary Health Region, and Carewest, its wholly-owned subsidiary
- Capital Health, and Capital Care Group Inc., its wholly-owned subsidiary
- Chinook Regional Health Authority
- East Central Health
- Health Quality Council of Alberta
- Northern Lights Health Region
- Peace Country Health

The appointed auditors of the three Health Authorities we did not audit—Aspen Regional Health Authority, Palliser Health Region and David Thompson Health Region—issued unqualified auditor's reports on their financial statements for the year ended March 31, 2008.

Performance measures

No exceptions

We did not report any exceptions on the results of applying specified procedures to the Ministry's performance measures in the Ministry's *2007–2008 Annual Report*.

Infrastructure and Transportation

Our audit findings and recommendations

Highway transfers—implemented

Recommendation implemented

In our *2006–2007 Annual Report* (vol. 2, page 120), we recommended that the Ministry monitor highway-transfer agreements to ensure that transactions are appropriately recorded in its financial statements.

The Ministry implemented our recommendation by improving its internal communication process. The Transportation Civil Engineering division informs the Finance division of any agreements it enters into to enable Finance to assess the financial reporting implications.

Performance reporting

Financial statements

Unqualified auditor's report

Our auditor's report on the Ministry's financial statements for the year ended March 31, 2008 is unqualified.

Performance measures

One exception

We found one exception when we completed specified auditing procedures on the Ministry's performance measures.

We found an exception for the measure *Physical Condition of Learning Facilities – Schools in good, fair, or poor condition.* We were unable to conclude that the results presented were reliable because we were unable to verify changes made by the Ministry to the external consultants' reports used to prepare the measure.

International, Intergovernmental and Aboriginal Relations

Summary of our recommendations

Use effective IT controls for risks

The Ministry of International and Intergovernmental Relations should develop an IT control framework—see page 51.

Monitor international offices better

The Ministry should strengthen its systems for monitoring and assessing the effectiveness and efficiency of its 10 international offices—see pages 324 and 326.

Our audit findings and recommendations

1. International offices review

Alberta actively participates in global marketplace

Alberta's economy relies on actively participating in the global marketplace. In 2006, trade and investment accounted for nearly 70% of Alberta's gross domestic product.[1] As new business opportunities arise abroad, many Alberta businesses may need help overcoming the barriers to developing business relationships in foreign countries. Differences in language, culture, business practices and laws can make dealing with organizations in other countries a challenge.

Alberta has ten international offices

The Ministry of International and Intergovernmental Relations has 10 international offices to promote Alberta businesses internationally and to help them connect with foreign markets. The offices are in Washington, China (2), Hong Kong, Taiwan, United Kingdom, Mexico, Germany, Korea and Japan. The Washington office has a slightly different goal than the others: to promote Alberta's economic and policy interests to high-level US decision-makers.

$9.25 million budget in 2007-08 for international offices

The international offices' budget for 2007–08 was $7.5 million, plus approximately $750,000 for housing and $1 million for office space which are both paid by the Department of Infrastructure. Seven of the ten offices are co-located in Canadian embassies and share federal-government systems and administrative support. The other three (in Japan, Hong Kong and China) are stand-alone offices with their own systems and administrative processes.

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[1] Alberta Foreign Offices Review Committee report p.2

1.1 Evaluating international offices' performance

Recommendation

We recommend that the Ministry of International and Intergovernmental Relations improve the processes management uses to evaluate the performance of each international office.

Background

Ministry has a performance-measure framework

The Ministry developed a performance-measure framework to support management's evaluation of the performance of the 10 international offices. Each month, using methodologies defined by the Ministry, the offices collect and report data to the Ministry for 14 performance measures. Senior management reviews the performance-measure results each quarter and follows up unexpected results with the Managing Director of each office.
Annually, a summary of the results is included in an *Activity Report* that publicly discloses the activities of the international offices.

Also, the Ministry's *Annual Report* includes three user-satisfaction performance measures compiled by the Ministry every two years to further support management's evaluation of the offices.

Criteria: the standards we used for our audit

Performance should be monitored

The Ministry should monitor clear measures of performance by the international offices and effectively manage any risks.

Our audit findings

Evaluation process can improve

The Ministry partly met this criterion. Its performance-measure framework supports management's assessment of the level of activity that each office has achieved compared to targets. However, management does not periodically review the international offices in-depth to ensure each continues to be relevant and cost-effective. Also, management does not include variance analyses and definitions for the 14 performance measures in its annual *Activity Report.*

a) No periodic assessment of the offices' continued relevance and cost-effectiveness

Formal cost-effectiveness reviews should be conducted

The Ministry reviews the offices' performance-measure results regularly and management has a good understanding of each office's activities. But the Ministry does not periodically do a formal comprehensive review to carefully examine the continued relevance and cost-effectiveness of each international office. During these reviews, the Ministry should consider whether:

- each office continues to have the right focus given changes in Alberta's market and the ever-changing global marketplace.

- the offices continue to meet Ministry objectives efficiently given changes in local economies.
- the offices are in the right markets to achieve the Ministry's goal of "increas[ing] exports of Alberta's goods and services."

Recent review completed

An MLA review committee recently reviewed the international offices and published recommendations in the *Alberta Foreign Offices Review Report*. This type of review had not been performed in over a decade. Management should conduct a similar review as part of a regularly scheduled process, and include a cost-benefit analysis of each office as part of the review.

b) Public performance reports can be more useful

Reporting can improve

The annual *Activity Report* contains helpful indicators of performance, such as "number of business introductions" made by the offices; however, management should consider the following improvements to the *Report*:

- adding variance analyses.
- defining the performance measures and describing the methodologies used to compile the data.

No analysis of results

The *Activity Report* does not include variance analyses supplied by the offices to explain significant deviations from targets and prior performance. In the 2006–07 *Activity Report*, most targets were significantly exceeded. For example, the actual "number of missions/delegations to the target market" exceeded the target by almost 25%, but there's no explanation why. Variance analyses help readers understand the effect that the international offices and external factors (such as mad cow disease in the beef industry) have on results.

Activity Report lacks definitions

The *Activity Report* lacks performance-measure definitions and methodology descriptions to clarify what the measures mean and how they were compiled. This is particularly important when measures are not intuitive. For example, for the measure "Number of Companies Participating", it is not clear what the companies are participating in. The Ministry gave us the following definition: "The number of international companies or potential investors involved in delegations to Alberta." Without this context, readers would not likely know what the measure reports.

Data limitations not explained

It is also important to describe the methodology used to compile measures when data may have limitations, such as estimates, so that readers know the limitations. For example, the measure "Number of Business Introductions" can be difficult to substantiate because of the way these introductions occur at certain events such as trade shows. The international offices track the introductions, but they don't always give details of who met whom to the

Ministry. In these cases, the submitted totals may reflect a best-efforts attempt to count each introduction; the actual totals may differ.

Implications and risks if recommendation not implemented

Opportunities may be lost and offices may become redundant

Things change quickly in the global marketplace so management needs current and reliable information on the continued relevance and cost-effectiveness of each office. Without regularly scheduled, thorough reviews of each office, management may not be able to effectively manage any risks to achieving its goal of "increas[ing] exports of Alberta' goods and services." Also, improvements to the *Activity Report* described above would help readers review and assess the international offices' performance.

1.2 Ensuring effective information-system controls

Recommendation

We recommend that the Ministry of International and Intergovernmental Relations obtain assurance that information-system controls are effective at the international offices and that relevant Government of Alberta IT policies and standards are being met.

Background

Payments processed at offices and reimbursed by Ministry

The seven international offices at Canadian embassies share the federal government's systems, servers and administrative processes. All international office payments are processed on embassy systems by embassy staff and paid out of Ministry advance accounts for each office. At each month-end, the federal government prepares a *Summary of Expenses* paid on behalf of each office through the federal systems and submits it, along with supporting receipts, to the Ministry for replenishment of the advance accounts. The three non-embassy offices use their own systems to process all payments and then bill the Ministry monthly to replenish their advance accounts.

Criteria: the standards we used for our audit

Information should be timely, relevant and reliable

The Ministry should obtain timely, relevant and reliable performance and financial information from each international office. Specifically, the Ministry:

- and the international offices should have appropriate security measures for the information systems that collect, store and transmit data.
- should obtain assurance that adequate systems are in place at the offices and that controls are functioning appropriately.

Our audit findings

Security measures needed

The Ministry partly met this criterion. It obtains timely, relevant and reliable performance and financial information from each office monthly. But it needs to ensure the offices have appropriate security measures in place to protect information systems. The Ministry relies on the federal government (for systems at the embassy offices) and international office staff (for systems at the stand-alone offices) to establish and maintain adequate controls over IT systems. However, the Ministry does not receive assurance over their control environment. This practice does not meet today's expectations regarding management's obligations to ensure adequate controls are in place and functioning appropriately.

a) No listing of systems, controls and standards at the international offices

Updated inventory of IT systems and controls needed

The Ministry does not have an up-to-date detailed listing of the computer systems, the controls in place and the IT standards followed at the 10 international offices. The Ministry hired a consultant to review the offices in 2002, including making an inventory of the hardware and software systems. This list has not been updated since then. The review focused on computer systems and user concerns, not on controls in place or the IT policies and standards being followed.

b) No assurance that systems and controls are effective and meet GoA policies and standards

No assurance that controls are effective

The Ministry does not receive assurance that systems and controls are appropriate and functioning as intended at the international offices. The Ministry's *Information Management & Technology* division currently provides minimal IT guidance to the staff at the offices and the division is not directly involved in setting up or maintaining offices' equipment or software. The Ministry needs assurance that controls are effective and that Government of Alberta (GoA) policies and standards for IT are met at all offices.

Seven offices use federal systems and processes but no assurance that controls are effective

The seven offices in Canadian embassies use federal-government servers and hardware; however, the Ministry has no arrangements to receive assurance from the federal-government that controls are effective. The Ministry should verify that federal standards followed by these offices meet applicable GoA policies and standards in areas such as IT systems security (passwords, firewalls, etc) and transmission of personal information.

Three offices contract with local IT companies but no assurance that controls are effective

The three offices not in embassies (Japan, Hong Kong, China) have their own financial and operating systems and they contract directly with local IT companies for maintenance and support. The Ministry relies on the staff in these offices to ensure systems and controls are in place and operating effectively. It does not receive independent assurance they have done so. Similar to the embassy offices, these offices should provide evidence to the Ministry that they follow applicable GoA IT standards. If possible, the local IT companies should be contractually required to provide the offices and the Ministry with assurance that the systems meet GoA IT standards and that the controls are effective.

New offices also need security

The Ministry may open new offices in other countries. Both existing and new offices need IT systems that meet GoA standards.

c) No secure transmission of information

Personal information not protected

During our review of the offices' monthly billing processes, we noted that personal information was transferred in an insecure manner between the offices and the Ministry. For example, each month, financial information—including personal information on international office staff salaries and bonuses—is transmitted between the offices, the Ministry, and Service Alberta by fax or email. The *Government of Alberta Policy for the Transmission of Personal Information* states that "any documentation or records containing personal information shall not be transmitted via electronic mail or facsimile unless:

- personal identifiers have been removed, or
- the message is encrypted in such a manner that the message sender and recipient can both be authenticated, or
- other means are employed by both the sending and receiving parties to ensure confidentiality is maintained."

GoA policy not followed

The current processes to transfer information between the Ministry, the offices and Service Alberta do not follow this GoA Policy: personal identifiers (names) are not removed, emails are not encrypted, and other means (follow-up phone calls) are not consistently used to maintain confidentiality.

Implications and risks if recommendation not implemented

IT systems may be unsecure

Without assurance that the international offices have effective systems and controls in place, information they collect, store and transmit may not be secure. The highest risk exists in the three offices not at Canadian embassies as they may not meet government IT standards. Since the international offices' staff can connect with corporate GoA human resource or financial systems, it is very important that they have controls in place to prevent external parties from accessing GoA systems. Also, offices may have confidential information on Alberta businesses in their systems: it must also be protected from unauthorized access. The Ministry is not aware of any breaches to the security of its systems.

Without assurance that GoA security policies are followed, further concerns, such as personal information not being securely transmitted, may exist in all 10 offices.

2. Agreements for locally engaged staff—implemented

Compensation terms clarified

In our *2005–2006 Annual Report* (page 58), we recommended that the Ministry of Economic Development maintain current and complete arrangements for staffing at its international offices. The Ministry has implemented our recommendation by clarifying the terms of compensation for locally engaged staff.

3. **Métis Settlements Ombudsman—implemented**
In our *November 2006 Report* (No. 4—page 21), we recommended that the Ministry of Aboriginal Relations review how it handles the Métis Settlements Ombudsman's (MSO) role.

Ministry set up Office of MSO

The Ministry implemented our recommendation by establishing an Office of the MSO in accordance with the *Métis Settlements Act* and enacting corresponding regulations. The Ministry also has a monitoring process to support and maintain the independence of the Ombudsman's role.

Performance reporting

Financial statements

Unqualified auditor's report

Our auditor's report on the Ministry of International, Intergovernmental and Aboriginal Relations financial statements for the year ended March 31, 2008 is unqualified.

Performance Measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures.

Justice and Attorney General

Summary of our recommendations

The Office of the Public Trustee, Estates and Trusts should update administrative policies for client assets—see below.

Our audit findings and recommendations

1. Office of the Public Trustee, Estates and Trusts—Administrative Policy Changes

Recommendation

We recommend that the Office of the Public Trustee, Estates and Trusts update administrative policies for client assets by ensuring that the policy for:

- **appraising gems, diamonds, and jewellery specifies what documentation to keep in trust files and clearly indicates when to appraise non-diamond-like jewellery.**
- **reimbursing Dependent Adult travel expenses is extended to Official Guardian clients.**
- **valuing personal vehicles for Dependent Adult clients specifies how to value the vehicles.**

Background

Asset control

The Office of the Public Trustee, Estates and Trusts (OPT) has established policies and procedures for valuing client assets and reimbursing client expenses. These policies and procedures guide trust officers and other OPT staff administering client assets.

The policy for gems, diamonds and jewellery appraisal requires vault custodians to test diamond-like stones to verify if they are diamonds. If a stone tests positive as diamond, an appraisal is required. The testing policy is limited to diamond-like stones.

The OPT has a policy for reimbursing travel expenses for Dependent Adult clients, but lacks a similar policy for Official Guardian clients.

The policy for valuing personal vehicles of Dependent Adult clients does not specify whether to value vehicles at a nominal amount or at fair value.

Policies should be consistently applied to all client files

Criteria: the standards we used for our audit

Policies for valuing client assets and approving and reimbursing client expenses should provide sufficient guidance so that they are consistently applied to different types of client files.

Our audit findings

Testing for diamond-like stones was done but test results were not included in the vault inventory listings. We did not find evidence that vault custodians communicated positive test results to the Trust Office so appraisals could be arranged. The policy for appraising gems, diamonds and jewellery indicated the required testing for diamonds but did not indicate what testing, if any, to do on other potentially valuable gems and jewellery.

Travel expenses for companions of Official Guardian clients were being reimbursed, but the policy lacks guidelines on what a reasonable travel expense is.

The policy for valuing personal vehicles of Dependent Adult clients conflicts with the Inventory Valuation Chart, but trust officers use both of them. The policy requires trust officers to use a vehicle evaluation publication. The Inventory Valuation chart indicated that trust officers should record vehicles at a nominal value.

Client trust files subject to error

Implications and risks if recommendation not implemented

Client assets may not be sufficiently controlled and appropriately recorded in client trust files.

Performance reporting

Financial statements

Unqualified auditor's report

Our auditor's reports on the financial statements for the year ended March 31, 2008 of the Ministry and the Office of the Public Trustee, Estates and Trusts are unqualified.

Performance measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures.

Legislative Assembly

Performance reporting

Financial statements

We audited the financial statements of all six Offices of the Legislative Assembly, except our own, for the year ended March 31, 2008. A private sector firm of chartered accountants appointed by the Standing Committee on Legislative Offices audited our financial statements. The Offices include:

- Legislative Assembly Office
- Office of the Auditor General
- Office of the Information and Privacy Commissioner
- Office of the Ombudsman
- Office of the Chief Electoral Officer
- Office of the Ethics Commissioner

Unqualified auditor's reports

Our auditor's reports for the financial statements of the Offices' of the Legislative Assembly for the year ended March 31, 2008 are unqualified.

Municipal Affairs and Housing

Summary of our recommendations

The Ministry should improve reporting and accountability of ME first! grant funds provided to municipalities for the purposes of reducing greenhouse gas emissions. For the full report on climate change—see below.

The Ministry should assess the status of grant funds advanced to start affordable housing projects—see page 336.

Our audit findings and recommendations

1. ME first! Program

Recommendation No. 37

We recommend that the Department of Municipal Affairs assess the effect on greenhouse gas emissions of the energy savings that resulted from the projects funded by the Department's *ME first!* Program and that the Department report the lessons learned from this program to the Departments involved in creating climate change programs.

Background

ME first! part of the response to 2002 Climate Change plan

A key part of Alberta's 2002 Albertans & Climate Change—Taking Action plan involved the Alberta government negotiating agreements, or sector agreements, with specific Alberta industry sectors and municipalities to set measurable goals for reducing greenhouse gas emissions. The ME first! program was created in 2003 by Alberta Municipal Affairs and Alberta Environment as one of the programs to fulfill this part of the plan.

$5 million cost

Municipalities supposed to report on energy savings achieved

ME first! was a four-year (2003-2006), interest-free loan program designed to help municipalities save energy, reduce greenhouse gas emissions, and replace conventional energy sources with renewable or alternative sources. In November 2006, the Ministry decided to end the program, as originally scheduled, following the December 2006 application cycle. The program paid a total of $38.8 million in interest-free loans to 71 municipalities for 84 projects, at a program cost of $5.0 million. To qualify for an interest-free loan, municipalities had to indicate how a project would save energy. Municipalities receiving loans had to complete two reports. The first was due at the end of the project. It asked the municipality to confirm that the interest-free loan was spent on the project. An Energy Reduction Confirmation Report was due one year after project completion. It asked the municipality to summarize the actual energy savings achieved by the project—through either fewer kilowatts per hour of electricity or gigajoules of fuel.

Criteria: the standards we used for our audit

Program's results should be assessed

The Department should have a system in place to monitor required reporting from municipalities so it can assess the energy savings that the program actually achieved.

The Department should assess the energy savings from this program to decide how to structure other climate-change programs.

Our audit findings

Program's actual energy savings not always obtained

We reviewed 23 of the 84 projects funded under ME first! and found that 12 municipalities had not submitted the Energy Reduction Confirmation Report. The Department had not followed up to obtain these reports. In cases where reports were received, there was no indication that the information was used, in any way.

The Department prepared program-evaluation reports for ME first!, which assessed project management, the application process, and the promotional strategy. But neither report assessed the cost-effectiveness of the program in reducing emissions.

Implications and risks if recommendation not implemented

If the Department does not fully gather the actual energy savings and emissions-reduction data for *ME first!*, it is not possible to know the extent of the contribution the program made to help Alberta achieve its emissions-reduction goals.

2. Affordable housing advances

Recommendation

We recommend that the Ministry of Housing and Urban Affairs assess the status of funds advanced to grant recipients who have not started the construction of affordable housing projects.

Background

50% of funds advanced to recipient before construction starts

The Ministry of Housing and Urban Affairs provides grants to organizations to construct new affordable housing projects. The Ministry enters into a grant agreement with each organization to build affordable housing projects. The grant funds are paid to the recipient as follows:

- 50% of the grant upon receipt of all necessary documentation that the approved project complies with all municipal bylaws and zoning bylaws.
- 40% when the project is 50% complete.
- 10% when the project is complete.

Our audit findings

No required reporting by grant recipient for money advanced before project starts

The agreement with the grant recipient requires that if the funds are not used for the intended purpose, funding must be returned to the Ministry. The grant agreement also specifies that during construction of an approved project the grant recipient will provide an audited statement pertaining to the use of the grant monies. However, there is no required reporting by the grant recipient for monies advanced where construction has not yet started.

Confirmation on status of funds not being received

Over the years, funding has been advanced for approved projects where construction has not yet started. For example, between 2003–04 and 2005–06 there were 4 projects where $3.7 million was advanced, but construction had not started. The Ministry requests and receives information on the reason for these project delays, but does not require confirmation on the status or use of funds prior to construction.

Accountability reports not required until construction starts

As the Department does not require accountability reports until construction starts, it should obtain the necessary assurance through its own review that grant money is safeguarded and program objectives will be met.

Implications and risks if recommendation not implemented

Missed opportunities

Missed opportunities—projects that could be completed may be delayed. Also, when funding is advanced before the start of construction, the risk of misappropriation of grant funds is increased.

3. Alberta Social Housing Corporation

3.1 Systems for selling land in Fort McMurray—follow up audit

3.1.1 Summary

In 2005, we audited the Alberta Social Housing Corporation's (the Corporation) systems used to sell land in Fort McMurray as well as its land sales and grants from 1999 to October 2005. Our objective was to assess whether the Corporation's systems for the sale of land met program objectives. In our October 2005 public report[1], we made two recommendations to the Corporation to establish a long-term plan for selling land in Fort McMurray and to improve systems used to sell land.

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[1] See pages 21 and 26 of our *Report of the Auditor General on Alberta Social Housing Corporation—Land Sales Systems—October 2005.*

Fort McMurray's population in 2005 was approximately 61,000, and is expected to reach 95,000 by the end of 2011.[2] Using an estimate of three persons per household, this translates to a need for approximately 10,000 new housing units. Together with the 2006 housing deficit estimate of 4,000[3] housing units, the total new housing units required by 2011 is 14,000.

This year, our follow-up work has satisfied us that management has implemented both recommendations.

Improving systems to sell land

The Corporation improved its systems for selling land in the Fort McMurray area by clearly defining its objectives and establishing a request for proposal process for each land sale. It clearly defined the terms and conditions in sales agreements and developed processes to monitor and enforce the conditions in the agreements. These systems were used when the Government of Alberta sold Parcel D in the summer of 2005 and Parcel F in the spring of 2006 for development. These two parcels of land are expected to yield a total of approximately 5,400 housing units[4].

Long-term planning

The government has established a plan to sell land in Fort McMurray. The Oil Sands Sustainable Development Secretariat (OSSDS) created the Community Development Plan (CDP), in consultation with all key stakeholders, to deal with the immediate and medium-term needs for housing in Fort McMurray. Planned developments at Saline Creek and Parsons Creek are expected to yield another 13,000 housing units. The OSSDS has also established processes to implement and monitor progress in achieving the CDP.

Since the plan is new, it will take some time to see if it meets the stated objectives. We will audit the implementation and effectiveness of the plan in the future.

3.1.2 Our audit findings

3.1.2.1 Systems for selling land—implemented

Recommendation implemented

The Corporation has implemented the recommendation by improving its systems for selling land and using this system for selling Parcels D and F. The Corporation sold Parcel D for $18,496,000 ($50,000 per acre) and Parcel F for

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[2] Investing in our Future: Responding to the Rapid Growth of Oil Sands Development, December 29, 2006, pg 53

[3] *Investing in our Future: Responding to the Rapid Growth of Oil Sands Development*, December 29, 2006, pg 49

[4] Housing units include duplexes, townhouses, condos, single family lots, ASHC units, and multi-family units.

$9,893,650 ($50,000 per acre). The sale of Parcels D and F are expected to yield a total of approximately 5,400 housing units.

The Corporation's process for selling Parcels D and F are described below:

Sales meet the Corporation's objectives and the province gets appropriate value for the land—the Corporation's objectives for selling land are: development timing, involvement of local stakeholders, affordable housing and long term affordability. These objectives were clearly defined and documented in the Request for Proposals and in the sales agreements.

The selling price for Parcels D and F of $50,000 per acre is representative of normal market conditions at the time, with other cities being used as a comparison. The selling price was fixed to ensure that the housing costs in Fort McMurray are not further increased by high land prices. The Corporation offered developers financing terms that were typical for land sales. The Corporation included adequate conditions in the land sales agreements for Parcels D and F to ensure that its objectives for each sale would be met.

Land sales agreements are received and approved—the Corporation followed a comprehensive process to review and approve both the Request for Proposals and land sales agreements for Parcels D and F. The process included the involvement of a RFP Review Committee (the Committee), the Corporation's Board of Directors and the Corporation's lawyers. The Committee assessed the submitted proposals against predetermined criteria and recommended the top proposal for approval of the Corporation's Board of Directors for both land sales. The Corporation's Board of Directors approved the land sales of Parcels D and F.

Sale agreements clearly outline the terms and conditions of the sales—the land sales agreements include various legal and financial conditions intended to protect the Corporation from financial loss, default or potential liability. The terms and conditions, if complied with, help to ensure the Corporation's objectives for the sale will be met.

Conditions in agreements are monitored and enforced—the Corporation monitors the developer's sale of lots for a previous land sale to ensure that the developer has complied with the sales condition to sell at least 15% of all serviced single-family lots created to local builders and residents. The Parcel D and F sales agreements include several sales conditions and remedies penalties for non-compliance.

3.1.2.2 Establish a long-term plan for selling land in Fort McMurray—implemented

Recommendation implemented

In the summer of 2007, the Government of Alberta created the Oil Sands Sustainable Development Secretariat (OSSDS) to deal with rapid growth issues in the oil sands regions of Alberta. The OSSDS developed the Community Development Plan (CDP) to address the immediate and medium-term needs for housing in Fort McMurray. Cabinet approved the CDP and, to date, Treasury Board has provided $100 million of funding.

The CDP proposes two areas for development in Fort McMurray—the Parsons Creek area and the Saline Creek area:

- The Parsons Creek area will be developed using a traditional model. Land will be transferred to the Corporation who in turn will sell the land to developers as market conditions dictate. A local Community Advisory Board will make recommendations to government regarding the overall development plan of the Parsons Creek land parcel. Net proceeds from the sales will be used to build the social assets (schools, affordable housing, recreational facilities etc.) for the community.
- The Saline Creek area will be developed through an alternative capital financing model with one developer. The developer could bear the up front social asset and infrastructure costs. We were told the agreement will be structured to provide the developer with a fair return while keeping lot prices reasonable.

We were told that proceeding with the two models will double the build-out rate to more effectively address the housing shortage. Development on these lands should start in 2010 and meet the housing needs to about 2015/16. These lands will house greater than 40,000 people and 13,000 housing units by 2015.

The OSSDS, working with the Alternative Capital Financing group at Treasury Board and the Ministry of Housing and Urban Affairs, are responsible for implementing the CDP. OSSDS is monitoring implementation of the plan by:

- incorporating the plan's strategies into ministry business and operational plans.
- establishing a cross-government committee to coordinate government activity.
- hiring of staff to implement and monitor the plan.
- requesting internal audit to provide assurance on the implementation of the plan.

In our previous report, we outlined several areas that needed to be considered in the plan. Following is a summary of how these areas are addressed in the plan:

Consulting with the Municipality—representatives of the Municipality[5] were active participants in the development of the CDP. To facilitate the implementation of the CDP, the OSSDS has established a cross-government committee. Representatives from Municipality are on this committee to communicate the needs of the community.

Timing the development—the plan calls for the land to be released in time to prepare it for development and to build the offsite infrastructure by 2010. This coordinates with the anticipated date of Parcels D and F being fully occupied.

Offsite infrastructure and servicing costs—total projected expenditures for the two parcels of land will be approximately $621 million—Parsons Creek will cost $348 million and Saline Creek will be $273 million. As part of the plan, the province will assist with up-front offsite infrastructure in areas that are normally a municipal responsibility. The provincial government will be responsible for the transportation infrastructure totalling $521 million and the Municipality may contribute a portion of the costs. On-site infrastructure and servicing costs will be the responsibility of the developers.

Meeting housing needs—proceeding with two different models provides a level of flexibility to meet the housing market conditions. The Saline Creek area will be developed as one major project. However, land from the Parsons Creek area will be sold by the Corporation as the market dictates.

Coordinating with other ministries—Although OSSDS prepared the CDP, numerous ministries and the Municipality had input into the plan. The ministries included Treasury Board, Transportation, Municipal Affairs, Infrastructure, Housing and Urban Affairs, Sustainable Resources Development, Energy, Finance and Justice. These ministries will contribute to the implementation of the CDP.

Assessing the impact of land sales on existing land, lot and housing prices—the plan considers the need to keep land prices affordable. The simultaneous sale and different approaches to development of both parcels of land will assist in meeting the market demand for land and housing in the area The Government of Alberta will contribute funding for its portion of offsite infrastructure expenses to reduce the cost of land.

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[5] Regional Municipality of Wood Buffalo

Ensuring resources to implement the plan—OSSDS expects that the required trades personnel will be available to meet the development needs and timelines of the CDP. The development of Parsons Creek will coincide with the completion of Parcels D and F. The potential private sector partners for the Saline Creek development will be required to provide trade resources to complete the project.

3.2 Capital Asset Policy—recommendation implemented

Capital asset policy updated

In our *2006–2007 Annual Report* (vol. 2—page 137) we recommended that the Alberta Social Housing Corporation (Corporation) develop and implement procedures to support its capitalization policy, and document and communicate them. The Corporation has updated their capital asset policy and procedures and communicated its policy to staff responsible for following this policy.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's reports on the Ministry's, Department's and the Corporation's financial statements for the year ended March 31, 2008 are unqualified.

Our auditor's reports for the year ended December 31, 2007, on the following financial statements are unqualified:
- Improvement Districts 4, 9, 12, 13 and 24.
- Kananaskis Improvement District.
- Special Areas Trust Account.

Performance measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures.

Seniors and Community Supports

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's reports on the Ministry and Department financial statements for the year ended March 31, 2008 are unqualified.

Our auditor's report on the financial statements of the following for the year ended March 31, 2008 are unqualified:

- Persons with Development Disabilities Northwest Region Board
- Persons with Development Disabilities Northeast Region Board
- Persons with Development Disabilities Edmonton Region Board
- Persons with Development Disabilities Central Region Board
- Persons with Development Disabilities Calgary Region Board
- Persons with Development Disabilities South Region Board

Non-compliance with legislation

Our auditor's report on the financial statements of the Calgary Region Community Board has an information paragraph reporting that expenses include payments by the Community Board for services to individuals whose disability did not meet the legal definition of a developmental disability. The Community Board provided services to individuals—and funding to organizations—that fall outside of the parameters set by the *Persons with Developmental Disabilities Community Governance Act*.

Performance measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the performance measures in the Ministry's *2007–2008 Annual Report*.

Service Alberta

Summary of our recommendations

The Ministry of Service Alberta should consider providing internal control assurance to its client ministries on its centralized processing of transactions—see below.

The Ministry should:
- ensure adequate logging and monitoring processes are in place in all application systems that host or support financial information and Albertans' personal information—see page 346.
- securely store void or cancelled documents with confidential information obtained through its vital statistics services—see page 348.
- document its review of actual system-conversion activities—see page 349.

Our audit findings and recommendations

1. Service Alberta's role as a central processor of transactions

Recommendation No. 38

We recommend that the Ministry of Service Alberta consider providing internal control assurance to its client ministries on its centralized processing of transactions.

Background

Service Alberta provides service to ministries

Service Alberta provides centralized processing of financial transactions services to its client ministries. Deputy Ministers and Senior Financial Officers (SFO) of client ministries rely on Service Alberta's control over centralized processing. They expect that:
- business processes are well-documented and understood.
- adequate risk assessments are complete.
- controls to mitigate identified risks are designed, implemented, and operating effectively.

Service Alberta management does not confirm to its client ministries that it has met these responsibilities under the service-level agreements it has with them. Some ministries have asked Service Alberta to provide assurance on the quality of its internal control over its centralized processes of financial transactions.

Criteria: the standards we used for our audit

SA should give assurance to ministries

Service Alberta management should understand its service-delivery processes, know the associated risks, and have controls in place to mitigate them, and provide internal control assurance to its client ministries on its centralized processing of financial transactions.

Ministries should know SA controls

Client ministries should understand the control over the services Service Alberta provides to them.

Our audit findings

SA gives no assurance

Service Alberta does not provide assurance on its centralized processing of transactions to its client ministries. The audit work currently done by the Office of the Auditor General to support our opinions on ministries' financial statements is not designed to assess all business risks including for example, the risk of misuse of employees' personal information or vendor information.

Ministries assume controls effective but get no assurance

Deputy Ministers and SFOs of client ministries do not sufficiently understand the controls over the services that Service Alberta provides to them. They receive no assurance that the controls are operating effectively—but they operate based on this assumption.

Implications and risks if recommendation not implemented

Service Alberta and its client ministries cannot mitigate risks cost effectively if the client ministries do not understand and do not have assurance on Service Alberta's internal controls over its centralized financial processes.

2. Access- and security-monitoring of application systems

Recommendation

We recommend that the Ministry of Service Alberta ensure adequate logging and monitoring processes are in place in all application systems that host or support financial information and Albertans' personal information.

Background

Server log files key to monitor traffic

Information is typically protected by limiting user access. Server log files, if set up correctly, provide detailed information about the traffic in and out of a server or an application. These log files are critical information sources if an incident occurs and evidence must be gathered to investigate it.

Central location to store log files

IT security best practices suggest server log files be sent from the source servers or network devices to one central logging repository where they can be correlated and reviewed for potential security breaches. Once the log files are at a central location, management can analyze them for potential attack patterns or security breaches, such as:

- access failures from internal or external sources.
- failed or repeated access attempts.
- increased user-account privileges.
- server failures, including restarts and reboots.
- traffic increases to applications or servers.

The applications used by Service Alberta match these best practices to varying degrees. Protection of sensitive information is important, and adopting best practices would help support teams catch unauthorized activities and prevent confidential information from being compromised.

Criteria: the standards we used for our audit

Monitoring and logging needed

Service Alberta should have processes in place to monitor and log security and access violations.

Our audit findings

Log files not in secure central location

Service Alberta reviews modifications to the Motor Vehicles System (MOVES) and matches them with supporting documentation. But it keeps the log in MOVES instead of in a secure central repository.

Service Alberta's vital statistics division has 28 users with full access to all Vital Statistics System (VISTAS) modules. These users can access and change sensitive and confidential personal information. Their activities are logged in VISTAS, instead of a secure central repository. Service Alberta could review users' activities, but it does not do so regularly.

Service Alberta plans to improve monitoring of user activities in ALTA

Service Alberta tracks the transaction history of the Alberta Land Titles Application (ALTA), and uploads the history daily to a separate application for reporting and review purposes. In developing the next version of ALTA, management plans to improve monitoring of users' activity logs by incorporating automated process to flag unusual activities for investigation.

No monitoring of system activities

Service Alberta tracks and monitors transaction activities in the Corporate Registries System (CORES). It tracks—but does not monitor—system activities, such as changes to users' access rights and privileges.

Service Alberta could review activities of particular accounts in the Alberta Personal Property Registry Electronic System (APPRES). But it does not do so regularly.

Implications and risks if recommendation not implemented

Service Alberta will not be able to detect possible intrusions to its critical information systems.

Information can be tampered with if log files are not kept in a secure central repository.

3. Secure storage for confidential information of Albertans

Recommendation

We recommend that the Ministry of Service Alberta securely store void or cancelled documents with confidential information obtained through its vital statistics services.

Background

Service Alberta processes confidential vital statistics

Registry agencies receive requests to cancel services previously requested by Albertans. The agencies send the void or cancelled marriage licences and applications for birth, marriage and death certificates, together with the "Request for Cancelling a Service" forms, to Service Alberta for processing in VISTAS and IMAGIS.

Documents archived for seven years, then destroyed

When Service Alberta receives these documents and the void or cancelled certificates, it reviews and approves the cancellation requests before entering the cancellations in VISTAS and IMAGIS. Service Alberta keeps the void or cancelled certificates for one year before sending them for archiving at a government storage site. The archived documents are kept at the site for seven years and then destroyed.

Criteria: the standards we used for our audit

Secure storage necessary

All void or cancelled documents that contain Albertans' confidential personal information should be stored securely.

Our audit findings

Confidential information not stored securely

The void or cancelled certificates are not securely stored while they are at Service Alberta. They were kept in a box under an employee's desk. Although Service Alberta's premises are not accessible to the public, the information should be kept in a locked facility to avoid unnecessary exposure.

Implications and risks if recommendation not implemented

Identity theft could result if confidential information is not securely stored.

4. System-conversion process

Recommendation

We recommend that the Ministry of Service Alberta document its review of actual system-conversion activities to ensure that they comply with the approved test plan for system conversion and data migration.

Background

Conversion of personal property registration system

Effective December 1, 2007, Service Alberta converted the data originally captured in the former Personal Property Information System (PERPIS) to the new Alberta Personal Property Registry Electronic System (APPRES).

What we did: reviews and interviews

We reviewed the APPRES requirements documents and Service Alberta's testing methodologies for data migration from PERPIS to APPRES. We interviewed key Service Alberta management to understand the process used to test the reporting capabilities of APPRES and how the functionality of PERPIS was mirrored and improved in APPRES. We also reviewed the post-implementation problem-reporting procedures, and focused on how Service Alberta's post-implementation team reported potential problems with APPRES and how they were resolved.

Criteria: the standards we used for our audit

Service Alberta should:

Data-conversion plan and test plan

- document a detailed data-conversion plan and a test plan and have them approved by an appropriate level of management.

Reconciliations

- perform reconciliations to ensure that the data transferred is accurate and complete.

Audit trail

- create an audit trail to prove that actual conversion activities followed the approved test plan, or that any deviation has been properly supported and documented.

Analysis for lessons learned

- perform a post-implementation analysis to ensure that lessons learned can be applied to future data conversions.

Our audit findings

Not clear if test plan followed

The migration procedures were documented and provided detailed steps including expected results for each test procedure. Of the 50 test cases reviewed, the expected results for 24 test cases were not checked and signed by the test team member. There is no clear indication that the test plan steps were followed and there were no signatures confirming the test results achieved or the steps followed.

Service Alberta did conduct post implementation reviews on the APPRES application and formally tracked all application and conversion issues to resolution.

Implications and risks if recommendation not implemented

Data conversion may be inaccurate

Failing to follow the approved test plan could result in incomplete or inaccurate data conversion from the former system to the new one.

5. Managing for results—changed circumstances

In our November 2004 management letter to the former Ministry of Government Services, we recommended that the Ministry improve its processes for human resources, operations, and business planning.

Government reorganization made recommendation irrelevant

In our *2004–2005 Annual Report* (page 214), we reported satisfactory progress on these recommendations. In the November 2005 government reorganization, the former Ministry of Government Services and the former Ministry of Restructuring and Government Efficiency merged to become the Ministry of Service Alberta. We will not track these performance-reporting recommendations any further, as they are not relevant due to significant organizational changes. We will consider doing future audits of performance-reporting systems as we develop our annual plans for systems audits.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's report on the Ministry financial statements for the year ended March 31, 2008 is unqualified.

Our auditor's reports are unqualified on the financial statements of the following employee benefit plans:

- Long Term Disability Income Continuance Plan—Bargaining Unit and Long Term Disability Income Continuance Plan—Management, Opted Out and Excluded for the year ended March 31, 2008.
- Government of Alberta Dental Plan Trust for the year ended December 31, 2007.
- Government Employees' Group Extended Medical Benefits Plan Trust for the year ended December 31, 2007.

Performance measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures.

Solicitor General and Ministry of Public Security

Summary of our recommendations

The Department should implement an information technology control framework—see page 51

The Alberta Gaming and Liquor Commission (AGLC) should:
- develop an IT control framework—see page 51
- design and implement a comprehensive change management policy and ensure change management controls are consistently followed throughout the organization—see section 2 below.

Our audit findings and recommendations

1. Provincial policing standards—implemented

In our *2002–2003 Annual Report* (No. 40—page 272), we recommended that the Department implement the plan for provincial policing standards.

Policing standards established

Compliance program developed

The Department fully implemented the recommendation by:
- establishing provincial standards for adequate and effective policing, and issuing a policing-standards manual to all police agencies in Alberta.
- developing a compliance-review program and scheduling site audits at police agencies to confirm compliance with the standards.
- completing compliance reviews at 8 of the 12 police agencies that provide policing services to about 99% of Albertans.
- scheduling dates to finish reviews at the remaining 4 police agencies and developing plans for the next cycle of compliance reviews.

2. Alberta Gaming and Liquor Commission (AGLC)

2.1 AGLC IT change management

Recommendation

We recommend that the Alberta Gaming & Liquor Commission (AGLC) design and implement a comprehensive IT change-management policy with well-designed, efficient, and effective control processes. We further recommend that AGLC ensure that their change-management controls are consistently followed throughout the organization.

Background

Justification for good change management processes

Change-management is a cornerstone required to rely on the availability, completeness, accuracy and validity of accounting and business critical systems. Change-management control processes ensure that all changes to all information systems are appropriate, do not cause security problems, and meet user needs. Change-management control processes also ensure that the applications and systems work the way they are intended to and that information in the system or application is available when needed and is reliable for financial-reporting purposes.

Criteria: the standards we used for our audit

The AGLC Information Systems (IS) group should have a well-designed, efficient, and effective organization-wide change-management process. The change-management process should ensure that:

- all changes are properly requested, developed, tested, and approved.
- all changes—including emergency changes—follow the organization wide change-management process.
- there is a segregation of duties between developing, approving and implementing changes for the production environments.

Our audit findings

Inconsistent change management processes. Some are informal.

AGLC IS does not have a change-management process that is consistently followed throughout the organization. We observed that one of the four teams within IS—Application Development—had documented guidelines for change-management including segregation of duties when making changes so that one person cannot circumvent the change management process. The other three teams within IS follow informal change-management procedures. And, it was difficult to obtain evidence that these informal change-management processes were consistently followed or operated effectively throughout the organization.

Guidelines exist but no evidence showing consistently followed

The Application Development team's change-management guidelines were well designed. However, we were unable to obtain evidence that all changes made by the Application Development team consistently follow the documented guidelines

Implications and risks if recommendation not implemented

Without well designed change management processes that are consistently followed throughout the organization, unauthorized changes to data in financial or business systems may not be detected. In addition, confidential financial or business information may be used, modified or disclosed in a way that leads to fraud, loss of money, or loss of reputation.

2.2 AGLC Contract management—implemented

Progress, but three parts outstanding

On pages 131–133 of our *2002–2003 Annual Report*, we recommended that AGLC strengthen its contract-management practices. In our *2005–2006 Annual Report,* we reported that AGLC had made satisfactory progress by improving its contracting practices. It had developed, approved and implemented revised contracting policies, including standard contract templates, contract summary sheets, contract summary documents, and documentation of contractor conflicts of interest. AGLC had not finished implementing three parts of the recommendation, which we assessed again this year.

Several practices improved

AGLC fully implemented the recommendation by:

- establishing more comprehensive contracting policies—refining operating procedures, setting standards for documentation (including business cases), and establishing performance benchmarks in contracts.
- improving processes to monitor contractors through inspections, reviews of contractor reporting, approvals of payments only after contract conditions have been met, and tracking and regular monitoring of key deliverables specified in contracts.
- strengthening the process for timely signing of contracts and documenting the business reasons for signing contracts after services start.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's reports on the financial statements of the Ministry, the Department, the Victims of Crime Fund, the Alberta Gaming and Liquor Commission, and the Alberta Lottery Fund for the year ending March 31, 2008 are unqualified.

Performance reporting

No exceptions

We found no exceptions when we completed specified auditing procedures on the Ministry and Alberta Gaming and Liquor Commission's performance measures.

Sustainable Resource Development

Summary of our recommendations

The Ministry should put processes in place to allow significant revenues currently recorded when cash is received to be recorded when revenue is due to the Crown—see below.

With respect to management of sand and gravel resources, the Department needs to improve monitoring and enforcement of operators' legal obligations, to assess current royalty rates, and to use its information more effectively—see page 356.

Our audit findings and recommendations

1. Controls over revenue

Recommendation No. 39

We recommend that the Department of Sustainable Resource Development put processes in place to allow significant revenues currently recorded when cash is received to be recorded when revenue is due to the Crown.

Background

In 2008, the Ministry recorded approximately $200 million of revenue. Revenue for the Ministry comes primarily from transfers from the Government of Canada, Timber Royalties and Fees, Land and Grazing Fees, and Fish and Wildlife licenses. Land and grazing fees include fees for sand and gravel usage and other land disturbance fees.

Some revenue is self assessed by companies

The amount of usage in calculating timber royalties, sand and gravel fees and other land disturbance fees is self assessed by the companies.

A disturbance fee is charged for oil sands mines, once land is disturbed, based on a fee of $200 per acre for each acre actually disturbed. This is a one time charge that is paid over the life of the mine (up to 25 years) as disturbance occurs. The Ministry has approved dispositions for 13 oil sands mines amounting to approximately 208,000 acres.

In the accrual basis of accounting, revenues and expenses are reflected in the determination of results for the period in which they are considered to have been earned and incurred, respectively, whether or not such transactions have been settled finally by the receipt or payment of cash or its equivalent.

In the cash basis of accounting, revenue is recorded when received.

Criteria: the standards we used for our audit

Controls over revenue should ensure revenue is completely and accurately recorded.

Our audit findings

As indicated in the findings in our sand and gravel audit (see section 2 below), the Ministry lacks a control to ensure that all revenues from usage of sand and gravel are completely recorded.

The Ministry also reports surface disturbance charges for mineral surface leases on a cash basis. For 12 of the mines, the Ministry is at least one year behind in reviewing the self assessment reports. In the case of the largest mine, the Ministry reported to us that they needed to review documentation with the company back to 1990 and was unable to provide an estimate of how much money is owed by the company.

Implications and risks if recommendation not implemented

The Ministry may not bill and correctly record all the revenue it is entitled to. The Ministry may also not be able to fully collect the revenue earned in the year because the limitation period for enforcement as per the *Limitations Act* may have expired.

2. Management of sand and gravel resources

2.1 Summary

What we examined

How are resources allocated, royalties collected and land reclaimed

Alberta communities are growing and with them is the demand for sand and gravel. The Department of Sustainable Resource Development (SRD) manages this natural resource for Albertans by administering access to public lands for sand and gravel extraction. We assessed whether the Department has effective systems to allocate and collect royalties for this resource and ensure responsible environmental stewardship of public lands.

Why this is important to Albertans

Alberta's sand and gravel play a vital role in virtually every aspect of the construction industry. Currently, active gravel leases in Alberta cover approximately 160,000 acres[1]. The steward of this resource should be held accountable for:

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[1] 406 commercial operators are working on 1,016 leases totalling 160,000 acres.

Protect environment and collect fair royalties

1. ensuring reclamation of the land
2. obtaining fair royalties
3. effectively using department information

What we found

SRD cannot confirm all operators have fulfilled their obligations

- SRD is behind, in some cases up to 20 years, with environmental inspections. SRD has not confirmed the area disturbed[2] or reclamation status of approximately 240,000 acres of land which has been explored and 5,000 acres of inactive holdings[3]
- there are few consequences to operators for not fulfilling their environmental or legal obligations. It is potentially less expensive for an operator to abandon a security deposit than to reclaim land damaged by aggregate extraction
- operators that are non-compliant with environmental requirements can nevertheless be awarded new aggregate holdings on other public land

Royalties unchanged since 1991

- royalty rates have not been changed since 1991 and are based on amounts reported by industry without verification

What needs to be done

Better management of resources needed

While a new policy is guiding allocations and SRD is working to improve its management of aggregate resources, we make five recommendations to deal with:

- monitoring and enforcement of operators' legal obligations.
- the current royalty structure.
- information management.

2.2 Background

The aggregate industry

Royalty revenue increased 54% in three years

The sand and gravel industry has benefited from Alberta's growth. Commercial sand and gravel operators paid over $8.2 million in royalties to Albertans in 2006-2007, an increase of 54% since 2003-2004. Royalty rates[4] did not change—the increase in revenue is due to an increase in extracted volumes.

At the end of 2007, 405 companies held 1,016 active sand and gravel holdings occupying about 160,000 acres of public land. Industry reported extracting 11.4 million tons of aggregate from these aggregate holdings during 2007.

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[2] The total area of a disposition may not be disturbed, for example, explorations typically have many small holes over a large area or only 20 acres of a 60-acre lease may be mined.

[3] The terms holding, disposition, lease and allocation mean the agreement between the Crown and a private operator permitting removal of aggregate from Crown land for commercial gain.

[4] Currently $0.75 per ton.

Economic impact hard to measure

It is difficult to determine the financial impact of the aggregate industry on Alberta's economy because end-product costs vary widely. For example, a ton of crushed gravel may cost $60 in one Alberta market and $5 in another. A senior board member of the Alberta Sand and Gravel Association estimated for the total annual economic activity of commercial sand and gravel operations at about $2 billion.

Full extent of deposits unknown

Access to aggregate affects the cost of construction and demand has been increasing steadily over the past five years. Understanding supply and its location is important for long-term land use and infrastructure planning. Aggregate holdings are getting bigger, rail transport is becoming more common and distances once considered cost prohibitive are becoming economically feasible.

Allocating aggregate resources

Growth led to policy revision

As demand grew, the aggregate industry requested SRD to approve larger aggregate holdings, closer to their markets. Traditionally, industry considered 40 acres sufficient for profitable operations. Larger holdings were limited to public works projects or industry specific uses such as oil sands development. Large holdings close to markets are advantageous because hauling gravel represents the majority of its cost and the economies of scale are better. SRD began to grant larger aggregate holdings on an individual basis and complaints from industry subsequently arose about perceived allocation imbalances.

Maximum size of an exclusive holding doubled

SRD revised its sand and gravel allocation policy in June 2006. The new policy doubled the size of allocations on a first come first serve basis, allowing an operator to explore and apply for holdings of up to 80 acres without competition. Holdings over 80 acres became subject to a bonus bid process wherein industry bids for the right to obtain large holdings on lands with known aggregate deposits. To March 31, 2008, a bonus bid process had not occurred.

Gaining access to sand and gravel

One way to access small amounts of sand and gravel on public land is at a public pit. Public pits supply aggregate to anyone who is willing to pay the royalty and is capable of removing the material. Alberta has 64 public pits, generally less than 5 acres in size. Albertans purchase access through a local field office. There are 3 large public pits, exceeding 200 acres intended for broader industrial use. SRD manages these through contractors who won a tendering process. We did not audit public pit operations.

Aggregate extraction

To gain exclusive right-to-use to extract aggregate from public land, an operator needs to obtain a Surface Material Exploration (SME) authorizing access to up to 320 acres for 6 months. The purpose is to estimate the quantity of aggregate available and define working parameters such as overburden depth and groundwater levels. The information gathered is mandatory for all holdings and critical in the development of a Conservation and Reclamation Business Plan. SRD does not require verification of the exploration results.

Surface Material Lease required to access gravel

Commercial operators must pay royalties and reclaim

Successful exploration leads to an application for a Surface Material Lease (SML). Designed for long-term resource development and management, SMLs last for 10 years and are renewable. SMLs allow exclusive access to a maximum of 80 acres and have terms and conditions such as progressive reclamation[5]. For smaller deposits, operators may seek a Surface Material License (SMC). Granting approval for a specified amount of aggregate, SMCs last one year and are for a maximum size of 5 acres. In all cases where aggregate resources are extracted for commercial purposes, security deposits and royalty fees are payable and reclamation is required.

Administration

One group administers sand and gravel resources

SRD's Major Industrial and Aggregates Unit (MIAU) administers Alberta's aggregate resources pursuant to legislation, regulations, policies and procedures. They communicate all requirements and obligations through publicly available forms, manuals, consultation and agreements.

Applicants are required to submit a statutory declaration identifying all aggregate holdings within a six-mile radius of the one for which they are applying. SRD will not approve adjacent allocations unless they are less than 80 acres combined, or the applicant can prove that they are for different markets - for example traversed by a river and supplying markets in opposite directions. Proximity to market is a major factor in the cost of aggregate and this is a way to promote equitable access to viable deposits.

Applications are reviewed by several agencies

These agencies review applications for aggregate holdings:
- SRD Rangeland Management Branch
- SRD Integrated Land Management Branch
- SRD Fish and Wildlife Division
- Alberta Environment Water Management Branch
- Culture and Community Spirit
- Alberta Transportation
- Municipality Development Office

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[5] Progressive reclamation means bringing the land back to its original state as the project progresses – effectively "cleaning up as you go along".

Agreement conditions developed with input from many agencies

Application reviews ensure the land requested is free of encumbrances and assigns operating conditions to the aggregate holding. For example, the condition "Utilize only existing road or bridge crossings to gain vehicular access across any watercourse" supports an objective to manage the number of roads and bridges in an area. Field conditions are consolidated into the final agreement.

New SRD policy requires applicants to detail their business and environmental planning in a Conservation and Reclamation Business Plan (CRBP). The CRBP enables better application evaluations and the development of more complete forecasts of proposed activities. It strengthens SRD's ability to effectively manage resources and ensure operators are knowledgeable of, and have planned for, their legal obligations.

Appeal process in place, but not often used

SRD has an established an appeal process for handling complaints. It covers three levels of administration and the results are binding. We saw evidence of only three appeals made using the formal process between 2002 and 2008, and were told that most issues are resolved through informal processes, such as contact with the Department.

SRD is busy educating and reviewing renewals

The new policy demonstrates that SRD has responded to industry concerns and recognizes the need for continuous improvement. SRD has not yet completed a post-implementation review because the policy is less than two years old and it has been busy educating industry, processing applications and undertaking a focused review of holdings under renewal.

2.3. Our audit findings and recommendations

2.3.1 Enforcement of reclamation obligations

Recommendation No. 40

We recommend that the Department of Sustainable Resource Development improve processes for inspecting aggregate holdings on public land and enforcing land reclamation requirements.

Background

This year the Major Industrial and Aggregates Unit is undertaking an inspection program of 232 leases up for renewal between 2008 and 2010 to assess operator compliance. They are also conducting a file review of expired leases that have not been closed or renewed.

SRD is developing the Land Management Inspection Protocol (LMIP), to inspect dispositions to all land use industries including energy, surface material and recreation. SRD acknowledges that not every disposition of every type in

Alberta can be inspected regularly and LMIP uses a risk assessment formula to direct inspection priorities. To be effective for Sand and Gravel, the risk assessment formula must recognize the inherent risks for different types of dispositions at all points in their lifecycles. Senior management is placing reliance on LMIP to identify the appropriate risk levels and prioritize future inspections.

Our audit findings

30,000 acres known to be unsatisfactorily reclaimed

SRD records show aggregate holdings[6] covering approximately 30,000 acres that have been inspected and deemed unsatisfactorily reclaimed. A further 245,000 acres are reported as cancelled with outstanding obligations and have not been awarded a reclamation certificate. 240,000 of these acres are from exploration agreements and represent a different level of risk than the 5,000 acres of leases and licenses yet to be inspected. Some aggregate holdings have remained un-inspected since the late 1980s.

The lack of reclamation inspection certificates may be due to:

- SRD having completed but not recorded an inspection
- an incomplete inspection or inspection with unsatisfactory reclamation in process, or
- the leaseholder has not requested an inspection and abandoned their security deposit. Inspections are not scheduled unless the leaseholder notifies SRD that the aggregate holding has been reclaimed.

New policy does not stop environmentally negligent operators from receiving more aggregate holdings

The new policy does not consider current or past environmental performance as part of applicant eligibility. It indicates that progressive reclamation will be required and that "renewal will be based on the performance of the lessee," suggesting that a poorly run pit will not be renewed. It states that an operator must begin using the pit within four years, implying that there will be an inspection at that time. It also states that periodic inspections will take place.

Regardless of inspection results, an operator can continue to extract aggregate from an active holding and apply for new ones while not progressively reclaiming or leaving expired and depleted aggregate holdings un-reclaimed. We found 154 operators currently hold active as well as unsatisfactorily reclaimed aggregate holdings.

We also noted that some operators are directors of multiple companies and while one company may have outstanding legal obligations, a related company may operate independently under separate agreements. SRD cannot legally restrict this practice.

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[6] These are SME, SMC and SML dispositions

Agreements require land reclamation

Agreements that govern holdings include terms and conditions relevant to reclamation. For example:

> ***"The holder shall carry out interim reclamation work concurrently with operations and full reclamation prior to cancellation and abandonment. Reclamation includes debris disposal, slope stabilization, re-contouring, restoration of natural drainage(s), replacement of surface soil and re-vegetation."***[7]

Little evidence of consequence to operators for non-compliance

Regulation allows SRD to enforce compliance with environmental terms in agreements. The Minister may demand that a site be reclaimed[8], do the work or cause it to be done and recover the cost of reclamation through forfeiture of the security deposit. If the security deposit is insufficient, the Minister may recover the costs from the holder as a debt owing to the Crown if the operator is still in business. The Minister can also involve Alberta Environment who can issue an Environmental Protection Order[9] on a disposition.

In the past 10 years, SRD has issued no demands that an operator reclaim an aggregate holding or pursued costs for reclaiming land with public funds since no aggregate holdings have been reclaimed with public funds. SRD has not suspended active operations or refused applications from operators with outstanding environmental obligations. We saw one occurrence in 2004 in which SRD refused to renew a licence and demanded reclamation. The operator did reclaim the holding.

Implications and risks if recommendation not implemented:
Without inspection and enforcement, those responsible may not repair environmental damage caused by the aggregate extraction process, and such costs may have to be borne by the public.

2.3.2 Flat fee security deposit

Recommendation No. 41

We recommend that the Department of Sustainable Resource Development assess the sufficiency of security deposits collected under agreements to complete reclamation requirements.

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[7] SML agreement, Condition 222

[8] *Dispositions and Fees Regulation*

[9] *Environmental Protection & Enhancement Act*

Background

Security deposit $1,000 an acre

Operators pay a security deposit of $1,000 per acre for leases and $1,500 per 80 acres for exploration. Deposits are intended to be sufficient to reclaim the land if the operator fails to do so.

The Department encourages progressive reclamation. If a project will proceed in phases and the first phase occupies 10 acres, the security deposit will be $10,000 even if the total holding is for a greater area. The expectation is that the operator will finish with the 10 acres and reclaim it while moving on to the next part of the holding. An operator can carry the security deposit forward by demonstrating progressive reclamation of the first phase, or pay a further security deposit for the next phase.

No request no inspection

When an operator has depleted or has otherwise finished with an aggregate holding, they require a reclamation certificate stating reclamation is complete to get their security deposit back. If an operator has not extracted any aggregate by the end of the approved term, they will notify SRD of that fact. An SRD field officer will then confirm reclamation or that nothing had been disturbed, and approve return of the deposit.

If the operator does not request the return of their security deposit, an inspection may not occur; instead SRD will rely on the LMIP sample protocol to identify that the site needs to be inspected. An operator could be noncompliant with their legal obligations without detection and only abandon the security deposit, which may be insufficient to reclaim the land.

Our audit findings

Pits might be reclaimed to other end uses

End use is an important part of the reclamation discussion. Not every disposition is returned to its original condition. For example a depleted pit may become a dugout for watering livestock. Flooding a pit may save the operator the cost of growing trees, but a risk exists that without appropriate oversight operators will choose to convert their dispositions into the least expensive, and potentially inappropriate, end use possible instead of a suitable end state. The new CRBP manages this risk to a large degree by ensuring that the operator commits to an approved reclamation plan before they begin work.

Reclamation is expensive

We interviewed two Edmonton environmental service companies that reclaim sites for industry and received estimates of between $5,000 and $20,000 per acre to restore gravel pits to their original condition. There are many factors involved including location, soil condition and the amount of original soil saved, the amount of sloping needed to achieve proper drainage, access for heavy machinery and whether trees or grasses are being restored.

Given the potential cost of reclamation and the fact that an operator can move on to new aggregate holdings unaffected by prior non-compliance, operators may have little financial incentive to reclaim depleted holdings.

Other organizations may operate more effectively

Alberta Environment has developed a guideline for aggregate holdings on private land called the Code of Practice for Pits. Its goal is to estimate actual reclamation costs. The calculation of security deposits considers many factors such as location, heavy equipment requirements and types of materials required for reclamation. The result is a security deposit that more accurately represents the true cost of reclaiming that specific holding. SRD may look to Environment's program for some guidance in this regard.

Implications and risks if recommendation not implemented
Operators will have little financial incentive to reclaim public land and SRD may incur the cost of reclamation exceeding the security deposit.

2.3.3 Royalty rates for sand and gravel

Recommendation No. 42
We recommend that the Department of Sustainable Resource Development assess whether current royalty rates for aggregate resources on public lands meet the aggregate allocation program goals and objectives.

Our audit findings

No changes since 1991

The royalty rate of $0.60 per cubic yard, or $0.75 a ton, for sand and gravel has not changed since 1991. SRD was not able to provide evidence of a royalty review since 1991 to ascertain if it is meeting program goals and objectives.

Implications and risks if recommendation not implemented:
Without regular reviews of the royalty structure, Albertans may not receive a fair return for this resource.

2.3.4 Quantity of aggregate removed

Recommendation
We recommend that the Department of Sustainable Resource Development develop systems to verify quantities of aggregate reported as removed by industry from public lands so that all revenue due to the Crown can be assessed and recorded in the financial statements.

Background

Volumes removed are reported on honour system

Operators are required to submit annual returns stating how much material they have removed from an aggregate holding and an annual report outlining their activities. Operator reported volumes and activities are on the honour system and are the basis for royalty payment calculations. There is no SRD verification.

Currently the MIAU compares the annual return with the annual operating report of approximately 25% of active SML dispositions annually. This is a paper based analysis using operator data. If there appears to be a discrepancy of over 25% between the two submissions MIAU will request a field inspection.

Our audit findings

Verification is difficult

We reviewed SRD documents expressing concern about the accuracy of amounts operators reported as extracted. These concerns prompted a pilot project in 1999 using volumetric surveys to verify amounts extracted from pits. However, accurately measuring quantities removed is difficult. Over time things settle, water and snow can swell or shrink a stockpile and qualified labor can be difficult and expensive to hire. SRD concluded that the reliability of data and a cost benefit analysis did not support using volumetric surveys on a large scale.

SRD has the right to audit but has no auditor

The *Public Lands Act* provides for an aggregate auditor and agreements with operators allow SRD the right to audit. However, no audits have been done since 2002 when a single auditor position was vacated.

Technology has improved and the LMIP initiative is equipping vehicles with GPS devices and satellite linked laptops. These will provide access to SRD databases while at a holding. With reliable data and proper tools, field officers or auditors could reasonably correlate reported to actual extraction volumes.

Operators don't need to use scales

SRD uses scales to measure amounts extracted from public pits, but does not require leaseholders to use measuring systems at exclusive right to use leases. While some large operators do use scales, SRD could require measuring processes for all operations over a prescribed threshold.

Imagery is available

SRD has developed sophisticated imaging systems and has many versions of satellite and aerial images of Alberta. These resources could be used to monitor activity, including reclamation.

Implications and risks if recommendation not implemented:

Without verifying how much material is being removed from gravel pits, SRD cannot plan for future needs, assure Albertans that they are receiving the correct benefit for their resources or properly enforce operators' legal obligations.

2.3.5 Information management

Recommendation

We recommend that the Department of Sustainable Resource Development capture and consolidate information throughout the life of an aggregate holding and use it to test compliance with legal obligations.

Background

Data stored in three places

Three separate databases contain elements of leaseholder, geographic, inspection and financial information. Not all data is exchanged between these systems and there are no rules guiding which system field officers use for what purposes. LMIP focuses on one system while MIAU primarily uses the other two.

Better planning documents Provide better information

The new CRBP has 10 sections and details 90 items including:

- federal, provincial and municipal regulatory reviews and plans to comply.
- waste management.
- topographical maps of present and future site boundaries and horizons.
- the amounts and timelines of material extraction.
- environmental impacts on water table, wildlife, plant life.
- plans to salvage timber and soils.
- the reclamation strategy.

This information is critical for forecasting expected activities and royalties, identifying unacceptable activities and trends, and enforcing legal obligations.

Our audit findings

CRBP details and agreement conditions not stored electronically

We obtained source data from the three databases and constructed an integrated record. SRD does not complete such a process. We found no electronic information on agreement conditions, or the qualitative and planning information submitted in CRBPs.

Complete information needed

The field office we visited confirmed that with consolidated information they could do inspections that are more comprehensive while at pits because they would have access to site plans, agreement conditions and operator-reported extracted volumes.

Implications and risks if the recommendation is not implemented

Without complete and properly integrated information available to all relevant SRD staff forecasting expected activities and royalties, identifying unreasonable activities or trends and enforcing agreement conditions in the field is at best inefficient but highly ineffective.

2.3.6 Other matters

Complaint involves a large holding close to the market

In October 2007, we received a public complaint about the allocation of a 705-acre aggregate holding in the Grande Prairie area. The complaint focused on the:

- size of the holding.
- location of this holding as the last known viable deposit close to Grande Prairie providing an unfair advantage to the leaseholder.
- appropriateness of the holding being held by a subsidiary of a large multinational firm.

We did not find a provincial monopoly

We confirmed that subsidiaries of an international firm hold 1,460 of the 3,700 acres of active SMLs in the Grande Prairie area and that subsidiaries of this firm hold a further 5,050 acres of active SMLs elsewhere in Alberta. We also determined the ownership of the companies in our sample files. We found that 43 companies have 64 controlling individuals, partnerships or parent companies. Provincially we found that 61% of active leaseholders had one holding and 3.5% had over 10 holdings. Our analysis does not support the notion of a monopoly.

The application for the Grande Prairie site was dated August 16, 2002. The file was substantially silent until June 2004. SRD then informed the applicant that a review would proceed after receipt of an updated conservation and reclamation business plan. The applicant submitted an updated plan. SRD evaluated the application and applied conditions. SRD granted approval on January 18, 2005.

We conclude there was no evidence to support allegations

This process is similar to many we reviewed during our audit. We found internal and external correspondence addressing issues, briefing notes to the Minister recommending approval and the requested materials submitted to SRD by the applicant. We found that policy and procedure in place at the time the application was processed was adhered to. We found no evidence of influence being exerted in the process.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's reports on the financial statements of the Ministry, the Department and the Environment Protection and Enhancement Fund for the year ended March 31, 2008 are unqualified.

Our auditor's report on the financial statement of the Natural Resources Conservation Board for the year ended March 31, 2008 is unqualified.

Performance measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the Ministry's performance measures.

Tourism, Parks, Recreation and Culture

Summary of our recommendations

IT control framework needed

The Ministry needs to develop an IT control framework—see page 51.

Our audit findings and recommendations

1. International Development Program—implemented

Recommendation implemented

In our *2004–2005 Annual Report* (page 142), we recommended that the Wild Rose Foundation improve its grant systems for the International Development Program by:

- enhancing the review of accountability reports, and
- establishing a way to obtain assurance that grant funds are used as intended.

Accountability processes improved

The Foundation implemented our recommendation by improving its grant accountability processes. It has:

- established new application criteria.
- developed an ongoing process to review accountability reports and an inspection protocol.
- conducted inspections of four international projects.

2. Community grants management—implemented

Recommendation implemented

In our *2004–2005 Annual Report* (pages 203 and 205), we recommended improvements to the grant management systems of the former Department of Gaming. The recommendations related to grant programs such as the Community Facility Enhancement Program, the Community Initiative Program, and the Other Initiatives grant program.

The Ministry implemented our recommendations by:

Information now available

- publishing information on the Other Initiatives grant program. The Ministry of Culture and Community Spirit website describes the existence, nature and purpose of the program.

Review of financial reports completed

- completing an initial project to review the backlog of financial reports. The Ministry continues to follow up on financial reports from grant recipients. It hired a person to work on this and it is trying to hire a second person.

Performance reporting

Financial statements

Unqualified auditor's reports

Our auditor's reports on the financial statements of the Ministry, Department and the following seven provincial agencies for the year ended March 31, 2008 are unqualified.

- Alberta Foundation for the Arts
- Alberta Sport, Recreation, Parks and Wildlife Foundation
- Human Rights, Citizenship and Multiculturalism Education Fund
- The Alberta Historical Resources Foundation
- The Government House Foundation
- The Historic Resources Fund
- The Wild Rose Foundation

Performance measures

No exceptions

We found no exceptions when we completed specified auditing procedures on the performance measures in the Ministry's *2007–2008 Annual Report*.

Treasury Board

Summary of our recommendations

The Ministry of Treasury Board should clarify—in the *Salaries and Benefits Disclosure Directive*—what organizations must disclose of the salary and benefits of individuals in their senior decision-making and management group who are paid directly by a third party—see below.

With respect to the *Report of Select Payments*, the Ministry of Treasury Board needs to do the following:

- review the types of information that should be included in the *Report*—see page 375.
- in conjunction with the Departments, re-evaluate its process in preparing the *Report*—see page 376.
- improve the timeliness of the *Report*—see page 377.

Our audit findings and recommendations

1. Salary and benefits disclosure

Recommendation

We recommend that the Ministry of Treasury Board, through the Salaries and Benefits Disclosure Directive, clarify what form of disclosure, under what circumstances, is required of the salary and benefits of an individual in an organization's senior decision making/management group who is compensated directly by a third party.

Background

Directive requires salary disclosure

Treasury Board Directive 12/98 requires disclosure of salary and benefits for individuals in an organization's senior decision-making/management group. Some individuals may be compensated directly by a third party, a situation not addressed by the Directive.

Criteria: the standards we used for our audit

Salaries and benefits should be disclosed consistently across government for all individuals in the senior decision making/management group of government organizations to ensure complete and transparent reporting.

Our audit findings

No guidance when third party pays salary

We found inconsistency, in the absence of specific guidance, with the disclosures for individuals compensated directly by third parties. The inconsistency arises from different conclusions on how to resolve the Directive's intent of transparency with preserving access to the labour marketplace and protecting the confidentiality of the third parties and individuals involved.

Salaries and benefits not clearly disclosed

We identified three instances across government where individuals were being compensated under third party contracts. Under the contracts, the government organizations reimburse the third parties for the individual's salary and benefits. As a result, the compensation paid is classified as supplies and services expense in the organization's financial statements. All of these individuals were operating as senior decision makers and were part of the management group of the organization. In one of the three cases, the salary and benefits disclosure excluded the salary and benefits of the individual.

Implications and risk if recommendation not implemented

The intent of transparency of the Salaries and Benefits Directive by disclosing fully and consistently the salary and benefits of all senior decision makers of the management group may not be achieved.

2. Report of Select Payments to MLAs

2.1 Summary

What we examined

Is the *Report* accurate, complete, timely and does it comply with legislation

We examined the Department of Treasury Board (TB) systems used in the annual publication of the *Report of Selected Payments to Members and Former Members of the Legislative Assembly and Persons Directly Associated with Members of the Legislative Assembly (Report).* Our objective was to determine if there are Treasury Board systems in place to ensure the information in the *Report* is accurate, complete, timely and complies with legislation.

Why is this important to Albertans

We undertook this audit as the *Report* is the most comprehensive document showing the payments made from public funds to elected officials or their direct associates. Albertans need to know they can have confidence in the accuracy and completeness of the *Report* in ensuring elected officials are held accountable.

What we found

Room for improvement

We conclude that the Department's system to record and publicly report payments to Members, former Members, and persons associated with them, requires improvement.

The *Report* consists of mandatory items that are reportable due to legislation requirements, for example, travel expenses as Minister of the Crown. There are also discretionary items included for which there is no legislative requirement to report, for example, MLA indemnity[1] and tax free allowance. The mandatory and discretionary items are combined and presented in the *Report*.

TB to confirm *Report* continues to be relevant

We found that TB is properly reporting the mandatory items and the discretionary items. However, TB needs to review what is contained within the *Report* to reaffirm that it continues to meet the current requirements. The decision as to what discretionary items to include was made some time ago by a committee of MLAs. We do not know if the discretionary items being reported today continue to meet MLA expectations as to what should be included in this *Report*. The *Report* should meet the needs of Albertans by providing useful and relevant information.

Be more efficient

We also found the current process to prepare the *Report* is time consuming. We found the Departments and TB are going through a manual and time consuming process in confirming MLA payments.

Report promptly

After compiling the information, TB verifies the information with each MLA. The *Report* is then forwarded to the Minister for tabling in the Legislative Assembly. It takes a year or more to present this *Report* publicly.

What needs to be done

TB needs to do the following:

- review the types of information that should be included in the *Report*.
- in conjunction with the Departments, re-evaluate its process in preparing the *Report*.
- improve the timeliness of the *Report*.

2.2 Background

Report required by two laws

Each year TB prepares the *Report* as required under section 37(4) of the *Legislative Assembly Act* and section 16(1) of the *Conflicts of Interest Act*. The *Report* that is tabled in the Legislative Assembly each year details the payments made to:

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[1] Salaries

- current Members of the Legislative Assembly (MLA).
- persons directly associated with MLAs.
- former MLAs.

Report has three main areas

The *Report* outlining the payments to current MLAs contains three main areas—Remuneration & Benefits, Reimbursement for Expenses and Other Payments. These payments can be described as either a mandatory or discretionary reporting item.

The following table outlines the mandatory and discretionary items with the amount of public funds expended in each category:

	Type of Expenses (All MLAs)	**Amount**
Mandatory Items	Fees and expenses for sitting on government boards, commissions or committees. Salary and travel expenses paid to a cabinet minister.	$3,913,684
Discretionary Items	MLA Indemnity, RRSP allowance, MLA tax free allowance, benefits, travel expenses as a MLA, temporary residence allowance.	$9,988,752

Both LAO and departments are source of information for *Report*

The Legislative Assembly Office (LAO) pays MLA expenses, MLA indemnities and salaries, and fees for MLAs who sit on legislative or government boards, commission and committees. The Departments reimburse the LAO for MLA costs associated with government work such as salaries or attending government board meetings. The Departments directly pay the MLAs for government related expenses. TB prepares the *Report* based on information provided to them by the LAO and the Departments.

Every financial transaction of the Government of Alberta is recorded into IMAGIS, the government's financial system. Each transaction requires numerous chart fields to be completed to record the transaction. The mandatory chart fields are:

- business unit (ministry)
- the department identifier
- the program code
- the date of the transaction
- the vendor
- the expense account code
- the amount of the transaction
- the invoice date

Direct payments: MLA pays

There are two types of payments that can be attributed to a MLA – direct payment and indirect payment. In a direct payment the MLA pays for the expense and is reimbursed for the amount. His or her "employee" number will be coded into the vendor chart field.

Indirect payments: third party pays to benefit MLA

In an indirect payment, a third party pays for an expense that was of benefit to the MLA. The third party will be recorded as the vendor with his or her employee number or vendor number coded into the vendor chart field. The MLA who received the benefit should have his or her employee number entered into the non-mandatory chart field called the "More" field.

Two databases used to prepare preliminary *Report*

Payments recorded in IMAGIS are electronically interfaced into PAID (Payee Accounts Information Database) at TB. In preparing the *Report*, TB queries all of the MLA employee numbers in the vendor and the "More" chart fields. The output from this query is sorted by the business unit and forwarded to the respective Departments for review (preliminary report). A set of instructions outlining the type of expense accounts that need to be reported is attached to the data.

Departments review

Each Department reviews the TB preliminary report to ensure all transactions made directly or indirectly to a MLA are included. The Department may make additions or deletions to the TB preliminary report. The modifications are sent back to TB.

TB completes *Report*

TB then completes the *Report* based on information from PAID, modifications made by the Departments and information supplied by the LAO. A draft version of the payments made to a MLA is sent to each MLA for review. After MLA approval, the *Report* is tabled in the Legislative Assembly.

2.3 Our audit findings and recommendations

2.3.1 Content of Report

Recommendation

We recommend that the Department of Treasury Board reaffirm what should be contained within the *Report of Selected Payments to Members and Former Members of the Legislative Assembly and Persons Directly Associated with Members of the Legislative Assembly* to ensure it continues to be relevant.

Our audit findings

No process to reaffirm relevance of *Report*

TB is properly reporting the mandatory and discretionary items. However, we found that there has been no process to reaffirm that the *Report's* contents continue to meet its purpose.

The discretionary items that are reported have evolved over time. We were told a committee of MLAs met over ten years ago to decide what discretionary items should be reported. There is limited documentation to show the changes that have taken place in what is reported as discretionary items. Typically, items such as MLA indemnity, tax free allowance and benefits are reported, but not, for example, hosting or working session expenses directly related to the MLA.

Combination of statutory and discretionary items

There is no evidence that anyone has reviewed the contents of this *Report* to ensure that taken together, the combination of legislative and discretionary items still meets the purpose of this *Report*. Some current MLAs may not understand that parts of the *Report* are discretionary. These MLAs may consider that what is included as discretionary reporting needs to be changed. This would result in either an increase or decrease in the type of payments that would be reported.

Implications and risks if recommendation not implemented

Without confirmation as to what information should be included in the *Report*, public confidence in systems to promote accountability of the elected officials may be compromised.

2.3.2 Efficiency

Recommendation

We recommend that the Department of Treasury Board use current technology to regularly and efficiently compile the material for public reporting.

Our audit findings

Process is not efficient

The current process to prepare the *Report* is inefficient. TB prepares preliminary reports containing the MLA payments for each Department to review. The Departments do not rely on the TB preliminary reports because the information is incomplete. As the Departments cannot rely on the TB preliminary report, the Departments will prepare their own reports using a manual process to identify the MLA expenses.

Better coding is needed

The preliminary reports are incomplete due to inconsistent coding of MLA expenses by Department staff at the time the expense is being paid. The Departments could improve their process by ensuring proper coding is completed for all MLA payments at the time the transaction is being recorded into IMAGIS. This would allow the Departments or TB to use IMAGIS to extract complete information on the MLA payments in an efficient manner.

Implications and risks if recommendation not implemented

An efficient system to collect and report elected officials' payments will ensure Albertans' expectations to receive accurate and timely information are met.

2.3.3 Timely reporting

Recommendation

We recommend that the President of Treasury Board arrange for all final reviews of the *Report* to take place within six months of the year end so that the *Report* can be ready for tabling in the Legislative Assembly.

Our audit findings

Report takes too long to produce

In the past, we have made two recommendations to the Minister of Finance to improve the timeliness of the *Report*. Much of the information contained in the *Report* is now routinely reported and widely available on government internet sites. For example, a Minister's office expenses are posted by each Department monthly, in the month following the activity. Other examples of timely reporting include the Government of Alberta making public the consolidated financial statements by June 30 of each year, three months after the fiscal year end.

The 2005/06 *Report* was tabled in March 2007, one year after the fiscal year end. The 2006/07 *Report* was tabled in May 2008, thirteen months after the fiscal year end.

Implications and risks if recommendation not implemented

MLAs are accountable to Albertans. Without timely reporting, this accountability is delayed and can be questioned.

3. Consistency of performance measures used in both government and ministry business plans—implemented

In our *2002–2003 Annual Report* (p. 27), we recommended that government and ministry business plans use consistent performance measures and targets. In 2006, we found that satisfactory progress had been made in improving the consistency of measures and targets that appeared in the 2006–2009 government and ministry business plans.

We examined the consistency of measures and targets that appear in both the 2008–2011 government and ministry plans. We found that measures and targets are presented on a consistent basis.

Performance reporting

Financial statements

Unqualified auditor's report

Our auditor's report on the Ministry of Treasury Board financial statements for the year ended March 31, 2008 is unqualified.

Performance measures

Because the Ministry did not have any performance measures, we did not complete any specified auditing procedures.

Outstanding recommendations

This is a complete listing of numbered and unnumbered recommendations that are not yet implemented.

Auditee	Original Recommendation	Repeated	Recommendation subject
Cross-Ministry			
Executive Council	2004–05 #1 & #2, p. 28		Recruiting, evaluating and training boards of directors
Service Alberta	2005–06 #22, vol. 1, p. 174		IT Project Management
Treasury Board	2006–07 #17, vol. 1, p. 174		Government credit cards
Aboriginal Relations			
	2006–07 vol. 2, p. 124		Grant monitoring
Advanced Education and Technology			
	April 2008 #1, p. 22		Post-Secondary Institutions—non-credit programs: Clarify standards and expectations
	April 2008 #2, p. 23		Post-Secondary Institutions—non-credit programs: Monitor Institutions' non-credit programs
	April 2008, p. 42		Monitoring vocational programs and degrees offered by private institutions
	April 2008, p. 195		College and technical institute computer controls: Well-designed and effective IT control policy and processes
Alberta College of Art and Design	2006–07 vol. 2, p. 21		IT internal controls
Alberta College of Art and Design	April 2008, p. 180		ACAD—Financial reporting and year-end processes
Alberta College of Art and Design	April 2008, p. 182		ACAD—Payroll controls
Grande Prairie Regional College	2006–07 #20, vol. 2, p. 20	April 2008, p. 183	Financial reporting and year-end processes
Grande Prairie Regional College	April 2008, p. 184		Capital asset management
Grant MacEwan College	2004–05, p. 104		Computer control environment
Grant MacEwan College	November 2006 #9, p. 35		Post Secondary Institutions: Grant MacEwan College construction management
Grant MacEwan College	November 2006 #10, p. 37		Post Secondary Institutions: Donations to Grant MacEwan College
Grant MacEwan College	April 2008 p. 186		Grant MacEwan College—Bookstore operations

Auditee	Original Recommendation	Repeated	Recommendation subject
Mount Royal College	2004–05, p. 100		Retention and severance agreements
Mount Royal College	2004–05, p. 101		Governance and Human Resources Committee Charter
Portage College	April 2008, p. 189		Portage College—Fuel purchases on fuel cards
Northern Alberta Institute of Technology	April 2008, p. 48		NAIT—construction management processes: selection processes
University of Alberta	2003–04, p. 252		Strategic planning for Research
University of Alberta	2005–06 vol. 2, p. 29		Campus security services
University of Alberta	2006–07 vol. 2, p. 24		Security configuration settings
University of Calgary	2003–04 #26, p. 255		Planning for research capacity
University of Calgary	2003–04, p. 254		Research measures and targets
University of Calgary	2003–04, p. 257	2006–07 vol. 2, p. 15	Controls over sponsored research and trust accounts
University of Calgary	2004–05 #18, p. 90		Research roles and responsibilities
University of Calgary	2004–05, p. 91		Research policies
University of Calgary	2004–05, p. 92		Research project proposals
University of Calgary	2004–05, p. 93		Research project management
University of Calgary	2004–05, p. 94		Accounting for research revenues and expenditures
University of Calgary	2005–06 vol. 2, p. 20		General computer controls
University of Calgary	2005–06 vol. 2, p. 24	• 2006–07 vol. 2, p. 13 • October 2008 #22, p. 220	PeopleSoft security
University of Calgary	2006–07 #18, vol. 2, p. 10		Information technology (IT) governance and control framework
University of Calgary	2006–07 vol. 2, p. 12	October 2008 p. 217	Controls over payroll
University of Lethbridg	2006–07 #21, vol. 2, p. 23		IT internal framework
Agriculture and Rural Development			
	2000–01, #3, p. 50	2004–05 #20, p. 113	Evaluating program success: grant management
	2002–03, #3, p. 49		Performance measurement
	2003–04, #3, p. 80		BSE Report July 2004: Risk assessment for the agriculture and agri-food industry in Alberta
	2005–06 vol. 2, p. 39		Verifying eligibility for the Canada-Alberta Fed Cattle Set Aside program
	2005–06 vol. 2, p. 40		Developing and monitoring compliance with an information technology security policy
	2005–06 #24, vol. 2, p. 37		Verifying eligibility for Farm Fuel Benefit program

Auditee	Original Recommendation	Repeated	Recommendation subject
	November 2006 #12, p. 46		Expense Accounts: Processes for reporting and dealing with allegations of employee misconduct
Agriculture Financial Services Corporation	2006–07 vol. 2, p. 32		Loan loss allowance methodology and process
Agriculture Financial Services Corporation	2006–07 vol. 2, p. 34		Wireless technology
Also see Recommendations to more than one ministry—page 388			
Children and Youth Services			
	2001–02, #8, p. 53	2002–03, p. 69	Contract Management Systems
	2001–02, #9, p. 54		Risk assessment and internal audit services
	2006–07 #6, vol. 1, p. 79		Child intervention services: Enhanced child intervention standards
	2006–07 #7, vol. 1, p. 82		Child intervention services: Accreditation systems for service providers
	2006–07 #8, vol. 1, p. 83		Child intervention services: Department compliance monitoring
Child and Family Services Authorities	2006–07 vol. 1, p. 86		Child intervention services: Authorities compliance monitoring processes
Child and Family Services Authorities	2006–07 vol.1, p. 88		Child intervention services: Authorities monitoring of service providers
Culture and Community Spirit			
Also see Recommendations to more than one ministry—page 388			
Education			
	2004–05 #27, p. 157	2006–07 #22, vol. 2, p. 46	(Purchase of textbooks) Savings generated by Learning Resources Centre
	2005–06 #25, vol. 2, p. 65		School board budget process
	2005–06 #26, vol. 2, p. 68		School board interim reporting—minimum standards and best practices
	2006–07 vol. 2, p. 45		Business cases
Employment and Immigration			
	2006–07 vol. 2, p. 55		Income support program—exception reports
	2006–07 vol. 2, p. 56		Compliance audit function—Income support program
	2006–07 vol. 2, p. 57		Debit cards
	2006–07 vol. 2, p. 58		Capital asset policy
	2006–07 #23, vol. 2, p. 60		Information technology control environment

Auditee	Original Recommendation	Repeated	Recommendation subject
Energy			
	2003–04 #10, p. 125		Oil sands projects approvals—incorporating risk into project assessment
	2004–05 #28, p. 165	2005–06 #27, vol. 2, p. 76	Assurance on well and production data
	2006–07 #9, vol. 1, p. 115		Energy's royalty review systems: Royalty regime objectives and targets
	2006–07 #10, vol. 1, p. 119		Energy's royalty review systems: Planning, coverage, and internal reporting
	2006–07 #11, vol. 1, p. 124		Energy's royalty review systems: Improving annual performance measures
	2006–07 #12, vol. 1, p. 126		Energy's royalty review systems: Periodic public information
	2006–07 #13, vol. 1, p. 129		Energy's royalty review systems: Enhancing controls
	April 2008, p. 57		Department of Energy's system for identifying and managing conflicts of interest: Documenting potential conflicts of interest
Energy Resources Conservation Board	2004–05 #29, p. 169		Assurance systems for volumetric accuracy
Energy Resources Conservation Board	2004–05 #30, p. 173		Liability management for suspension, abandonment and reclamation activities
Energy Resources Conservation Board	2006–07 #24, vol. 2, p. 71		IT control framework
Also see Recommendations to more than one ministry—page 388			
Environment			
	1998–99 #30, p. 158	• 2000–01 #8, p. 90 • 2004–05 #31, p. 180	Financial security for land disturbances
	2002–03 #12, p. 103	2005–06 #29, vol. 2, p. 87	Contaminated sites information systems
	2005–06 #1, vol. 1, p. 37		Drinking Water: Approvals and registrations
	2005–06 #2, vol. 1, p. 43		Drinking Water: Inspection system
	2005–06 #3, vol. 1, p. 49		Drinking Water: Waterworks operators
	2005–06 #4, vol. 1, p. 52		Drinking Water: Information systems
	2005–06 #5, vol. 1, p. 53		Drinking Water: Supporting Environment's drinking water goals
	2005–06 vol. 1, p. 48		Drinking Water: Communicating with partners
	2005–06 #28, vol. 2, p. 84		Water Well Drilling
Also see Recommendations to more than one ministry—page 388			

Auditee	Original Recommendation	Repeated	Recommendation subject
Executive Council			
See Cross-Ministry—page 379			
Finance and Enterprise			
	2005–06 #30a, vol. 2, p. 97		Supplementary Retirement Plans—assess the annual and cumulative costs and risks
	2006–07 vol. 2, p. 85		Alberta Indian Tax Exemption program limits
	2006–07 vol. 1, p. 142		The Government's revenue forecasting systems: Rates of return used to forecast investment income
	2006–07 vol. 1, p. 143		The Government's revenue forecasting systems: Personal income tax forecast
	2006–07 #14, vol. 1, p. 145		The Government's revenue forecasting systems: Corporate income tax forecast
	2006–07 #16, vol. 1, p. 149		The Government's revenue forecasting systems: Public reporting of revenue forecasts
	2006–07 vol. 2, p. 87		Obtaining assurance on third party service providers
AIMCo	2006–07 #25, vol. 2, p. 91		Controls over derivative contracts
AIMCo	2006–07 vol. 2, p. 92	October 2008 #33, p. 287	Controls over private equity partnership investments
AIMCo	2006–07 vol. 2, p. 93		Access and change management controls
ATB	1999–00 #49, p. 281	• 2000–01 #49, p. 258 • 2001–02 #17, p. 103 • 2003–04 #18, p. 161 • 2004–05 #33, p. 195	Strengthening internal controls—branch operations
ATB	2001–02 #16, p. 101	2002–03 #16, p. 121	Risk management
ATB	2002–03 #15, p. 119	• 2003–04 #17, p. 159 • 2004–05 #32, p. 193	Lending policy compliance
ATB	2006–07 #26, vol. 2, p. 94		Processes to confirm compliance with Alberta Finance Guideline
ATB	2006–07 vol. 2, p. 97		Information technology control framework
ATB	2006–07 vol. 2, p. 99		General loan loss allowance

Auditee	Original Recommendation	Repeated	Recommendation subject
Health and Wellness			
	1997–98 #27, p. 125	• 1999–00 #21, p. 144 • 2005–06 #19, vol. 1, p. 153	Population–based funding: Data improvement
	1998–99 #19, p. 93	1999–00 #39, p. 238	Academic Health: Governance and accountability
	2000–01 #17, p. 121	2005–06 #33, vol. 2, p. 120	Analysis of physician billing information
	2001–02 #24, p. 135	• 2003–04 #22, p. 195 • 2005–06 #34, vol. 2, p. 123	Information technology control environment
	2001–02, p. 134	2002–03 #22, p. 152	Control of, and accountability for, restricted funding
	2002–03 #23, p. 156 and 157		Province Wide Services
	2003–04 #23, p. 197		Accountability of the Health Regions to the Minister of Health and Wellness
	2005–06 #17, vol. 1, p. 146		RHA Global Funding: Defining goals and performance measures
	2005–06 vol. 1, p. 147		RHA Global Funding: Periodic analysis
	2005–06 #18, vol. 1, p. 149		RHA Global Funding: Non-formula funding adjustments
	2005–06 #20, vol. 1, p. 155		RHA Global Funding: Funding communications
	2005–06 #21, vol. 1, p. 156		RHA Global Funding: Coordination of capital and operating decisions
	2005–06 vol. 1, p. 158		RHA Global Funding: Documentation retention
	2005–06 vol. 1, p. 159		RHA Global Funding: Data availability and timeliness
	2005–06 vol. 1, p. 160		RHA Global Funding: Resolving Global Funding issues
	2005–06 #31, vol. 2, p. 116		2005 Ministry annual report—results analysis
	2005–06 #32, vol. 2, p. 118		2005 Ministry annual report—performance measures
	2006–07 vol. 2, p. 105		Unauthorized network connections
	2006–07 vol. 2, p. 107		Claims assessment system
	April 2008 #4, p. 77		Implementing the Provincial Mental Health Plan: The accountability framework
Department and Alberta Mental Health Board	April 2008 #3, p. 72		Implementing the Provincial Mental Health Plan: Implementation systems

Auditee	Original Recommendation	Repeated	Recommendation subject
Alberta Alcohol and Drug Abuse Commission	November 2006 #1, p. 14		Contracting Practices: Internal controls
Alberta Alcohol and Drug Abuse Commission	November 2006 #3, p. 17		Contracting Practices: Board governance
Alberta Alcohol and Drug Abuse Commission	2006–07 vol. 2, p. 116		General computer controls
Alberta Cancer Board	2006–07 vol. 2, p. 115		Controls over access to computer applications
Calgary Health Region	2005–06 #36, vol. 2, p. 128		Monitoring service provider compliance and performance
Calgary Health Region	2006–07 #28, vol. 2, p. 112		Change-management process
Calgary Health Region	2006–07 #29, vol. 2, p. 113		Inappropriate user access
Capital Health Authority and Calgary Health Region	2000–01 p. 135		Performance measures for surgical services

Also see Recommendations to more than one ministry—page 388

Housing and Urban Affairs

No outstanding recommendations

Infrastructure

No outstanding recommendations

International and Intergovernmental Relations

No outstanding recommendations

Justice and Attorney General

	2006–07 #31, vol. 2, p. 128		Information Technology Security
	2006–07 vol. 2, p. 129		Disaster Recovery Plans
	2006–07 vol. 2, p. 130		Information Technology Access Controls
	2006–07 vol. 2, p. 131		Judicial Information Technology Security

Legislative Assembly

	2006–07 vol. 2, p. 189		Strengthen policies for Members' Services Allowance
	2006–07 vol. 2, p. 192		Temporary Residence Allowance

Municipal Affairs

	2001–02 #46, p. 220		Emergency preparedness
	2003–04, p. 265	2006–07 Vol. 2, p. 138	Information Technology management controls

Auditee	Original Recommendation	Repeated	Recommendation subject
Seniors and Community Supports			
	2006–07 vol. 2, p. 143		General computer controls
Department and PDD community boards	2003–04 #8, p. 107		Service provider risk assessment
Department and PDD community boards	2003–04 #9, p. 111		Contract monitoring and evaluation
PDD Provincial Board and 6 community boards	2003–04, p. 109		Contracting framework and policies
Also see Recommendations to more than one ministry—page 388			
Service Alberta			
	2001–02 #22, p. 120	• 2002–03 #20, p. 143 • 2004–05 #37, p. 284	Performance measures
	2003–04 #20, p. 177		Contracting policies and procedures
	2004–05 #34, p. 212		IT project management of Registry Renewal Initiative
	2005–06 #37, vol. 2, p. 168		Physical security
	2005–06 vol. 2, p. 165	2006–07 vol. 2, p. 148	Security administration for shared services at distributed sites
	2006–07 #32, vol. 2, p. 146		IT Service level agreements between Service Alberta and its client ministries
	2006–07 vol. 2, p. 149		Risk assessment for central data centre assets
	April 2008 #7, p. 170		Guidance to implement IT control frameworks
Also see Cross-Ministry—page 379			
Solicitor General and Ministry of Public Security			
	2006–07 vol. 2, p. 154		Change Management
	2006–07 vol. 2, p. 155		IT Business Continuity Plan
Sustainable Resource Development			
	2002–03, p. 277		Contracting
	2005–06 #13, vol. 1, p. 118		Reforestation: Performance information.
	2005–06 #14, vol. 1, p. 118		Reforestation: Performance information
	2005–06 #15, vol. 1, p. 122		Reforestation: Monitoring and enforcement
	2005–06 #16, vol. 1, p. 127		Reforestation: Forest Resource Improvement Association of Alberta

Auditee	Original Recommendation	Repeated	Recommendation subject
	2005–06 vol. 1, p. 129		Reforestation: Seed inventory
	2006–07 vol. 2, p. 161		Leases and sales
	2006–07 vol. 2, p. 162		Land sale agreements clearly outline the terms and conditions of sales and conditions in land sale and lease agreements are met
	2006–07 #33, vol. 2, p. 163		Requests for proposals to ensure the province gets the best possible value that can be obtained given government objectives
	2006–07 vol. 2, p. 165		Project management
Natural Resources Conservation Board	2003–04 #28, p. 294	2006–07 #34, vol. 2, p. 167	Natural Resources Conservation Board—Rank compliance and enforcement activities based on risk (Confined feeding operations)

Also see Recommendations to more than one ministry—page 388

Tourism, Parks and Recreation

Also see Recommendations to more than one ministry—page 388

Transportation

Auditee	Original Recommendation	Repeated	Recommendation subject
	2003–04 #29, p. 301		Monitoring processes for commercial vehicle and motor vehicle inspection programs
	2003–04 #30, p. 303		Licensing of commercial vehicle and motor vehicle inspection facilities and technicians
	November 2006 #5, p. 24		Capital grants to Métis Settlements
	April 2008 #5 and #6, p. 155		Identifying and managing conflicts of interest for contracted IT professionals

Treasury Board

Auditee	Original Recommendation	Repeated	Recommendation subject
	1996–97 #25, p. 199	• 1997–98 #41, p. 202 • 1998–99 #47, p. 261 • 1999–00 #42, p. 263 • 2000–01 #45, p. 245 • 2001–02 #15, p. 94 • 2002–03 #2, p. 40	Corporate government accounting policies
	2006–07 #1, vol. 1, p. 39		Assessing and prioritizing Alberta's infrastructure needs: Roles and responsibilities need to be better defined and understood
	2006–07 #2, vol. 1, p. 49		Assessing and prioritizing Alberta's infrastructure needs: Capital Plan needs to reduce deferred maintenance and consider life-cycle costs

Auditee	Original Recommendation	Repeated	Recommendation subject
	2006–07 #3, vol. 1, p. 54		Assessing and prioritizing Alberta's infrastructure needs: Capital Plan needs to reduce deferred maintenance and consider life-cycle costs
	2006–07 #4, vol. 1, p. 57		Assessing and prioritizing Alberta's infrastructure needs: Process to prioritize individual infrastructure projects needs improving
	2006–07 #5, vol. 1, p. 59		Assessing and prioritizing Alberta's infrastructure needs: Process to prioritize individual infrastructure projects needs improving
	2006–07 vol. 2, p. 178		Inconsistent budgeting and accounting for grants
Also see Cross-Ministry—page 379			
Recommendations to more than one ministry			
Culture and Community Spirit/Tourism, Parks and Recreation	2006–07 vol. 2, p. 172		Computer control environment
Food Safety			
Regional Health Authorities	2005–06 #6, vol. 1, p. 76		Food Safety: RHA food establishment inspection programs
Regional Health Authorities and Health and Wellness	2005–06 vol. 1, p. 83		Food Safety: Tools to promote and enforce food safety
Regional Health Authorities (supported by Health and Wellness	2005–06 #7, vol. 1, p. 84		Food Safety: RHA food safety information systems
Regional Health Authorities	2005–06 #8, vol. 1, p. 87		Food Safety: Compliance with permitting legislation
Agriculture and Food	2005–06 #9, vol. 1, p. 88		Food Safety: Alberta Agriculture's surveillance program
Agriculture and Food	2005–06 #10, vol. 1, p. 91		Food Safety: Alberta Agriculture's inspection and investigation programs
Agriculture and Food	2005–06 vol. 1, p. 94		Food Safety: Alberta Agriculture's food safety information systems
Health and Wellness and Agriculture and Food (in cooperation with RHAs)	2005–06 #11, vol. 1, p. 97		Food Safety: Integrated food safety planning and activities
Regional Health Authorities, Health and Wellness, and Agriculture and Food	2005–06 vol. 1, p. 102		Food Safety: Eliminating gaps in coverage
Health and Wellness, and Agriculture and Food	2005–06 #12, vol. 1, p. 105		Food Safety: Accountability

Auditee	Original Recommendation	Repeated	Recommendation subject
Seniors Care and Programs			
Health and Wellness and RHAs (working with Seniors and Community Supports)	2004–05, #6, p. 58		Seniors Care and Programs, No. 2—page 31: Compliance with Basic Service Standards
Health and Wellness and RHAs (working with Seniors and Community Supports)	2004–05, #7, p. 59		Seniors Care and Programs, No. 3—page 34: Effectiveness of services in long-term care facilities
Health and Wellness (working with RHAs with Seniors and Community Supports)	2004–05, #8, p. 59		Seniors Care and Programs, No. 4—page 35: Effectiveness of services in long–term care facilities
Health and Wellness (working with RHAs with Seniors and Community Supports)	2004–05, p. 61		Seniors Care and Programs—page 37: Information to monitor compliance with legislation
Health and Wellness (working with RHAs with Seniors and Community Supports)	2004–05, #9, p. 62		Seniors Care and Programs, No. 5—page 39: Determining future needs for services in long-term care facilities
Health and Wellness	2004–05, p. 62		Seniors Care and Programs—page 39: Report on progress implementing Continuing Care Strategic Service Plans
Seniors and Community Supports	2004–05 #12, p. 66		Seniors Care and Programs, No. 8: Effectiveness of Seniors Lodge Program
Seniors and Community Supports	2004–05, p. 67		Seniors Care and Programs—page 50: Determining future needs
Seniors and Community Supports	2004–05, p. 68		Seniors Care and Programs—page 55: Effectiveness of the Alberta Seniors Benefit Program
Seniors and Community Supports	2004–05 #13, p. 69		Seniors Care and Programs, No. 9—page 56: Information to determine program benefits
Sustainable Resource and Environmental Management (SREM)			
Energy, Environment and Sustainable Resource Development	2004–05 #14, p. 72		Sustainable Resource and Environmental Management (SREM) Implementation Plan

Glossary

This glossary explains key accounting terms and concepts in this report.

Accountability	Responsibility for the consequences of actions. In this report, *accountability* requires ministries, departments and other entities to: • report their results (what they spent and what they achieved) and compare them to their goals • explain any differences between their goals and results Government accountability allows Albertans to decide whether the government is doing a good job. They can compare the costs and benefits of government action: what it spends, what it tries to do (goals), and what it actually does (results).
Accrual basis of accounting	A way of recording financial transactions that puts revenues and expenses in the period when they are earned and incurred.
Adverse auditor's opinion	An auditor's opinion that financial statements are not presented fairly and are not reliable.
Assurance	An auditor's written conclusion about something audited. Absolute assurance is impossible because of several factors, including the nature of judgment and testing, the inherent limitations of control, and the fact that much of the evidence available to an auditor is only persuasive, not conclusive.
Attest work, attest audit	Work an auditor does to express an opinion on the reliability of financial statements.
Audit	An auditor's examination and verification of evidence to determine the reliability of financial information, to evaluate compliance with laws, or to report on the adequacy of management systems, controls and practices.
Auditor	A person who examines systems and financial information.
Auditor's opinion	An auditor's written opinion on whether things audited meet the criteria that apply to them.
Auditor's report	An auditor's written communication on the results of an audit.
Business cases	An assessment a project's financial, social and economic impacts. A business case is a proposal that analyses the costs, benefits and risks associated with the proposed investment, including reasonable alternatives. The province has issued business case usage guidelines and a business case template that the Department can refer to in establishing its business case policy.
Capital asset	A long-term asset.
COBIT	Abbreviation for "Control Objectives for Information and Related Technology". COBIT was developed by the Information Systems Audit and Control Foundation and the IT Governance Institute. COBIT provides good practices for managing IT processes to meet the needs of enterprise management. It bridges the gaps between business risks, technical issues, control needs, and performance measurement requirements.
Criteria	Reasonable and attainable standards of performance that auditors use to assess systems.
Cross-ministry	The section of this report covering systems and problems that affect several ministries or the whole government.
Crown	The Government of Alberta.

Deferred maintenance	Any maintenance work not performed when it should be. Maintenance work should be performed when necessary to ensure capital assets provide acceptable service over their expected lives.
ERP	Abbreviation for Enterprise Resource Planning. ERPs integrate and automate all data and processes of an organization into one comprehensive system. A typical ERP has multiple modules within a computer software application, standardized hardware, and a centralized database used by all modules to achieve this integration. Although an ERP can be as small as an accounting and payroll application, the term ERP is usually associated with larger systems that perform many functions within an organization. Examples of modules in an ERP, which formerly would have been stand-alone applications, include: Financials (General Ledger, Accounts Payable, and Accounts Receivable), Payroll, Human Resources, Purchasing and Supply Chain, Project Management, Asset Management, Student Administration Systems and Decision Support Systems. Some of the more common ERPs are PeopleSoft, SAP, Great Plains, and Oracle Applications.
Exception	Something that does not meet the criteria it should meet—see "Auditor's opinion".
Expense	The cost of a thing over a specific time.
GAAP	Abbreviation for "generally accepted accounting principles", which are established by the Canadian Institute of Chartered Accountants.
Governance	A process and structure that brings together capable people and relevant information to achieve goals. Governance defines an organization's accountability systems and ensures the effective use of public resources.
IMAGIS	Abbreviation for the government's Integrated Management Information System—a customized version of *PeopleSoft*. It is the main computer program that ministries use for financial and human resource information systems.
Internal audit	A group of auditors within a ministry (or an organization) that assesses and reports on the adequacy of the ministry's internal controls. The group reports its findings directly to the deputy minister. Internal auditors need an unrestricted scope to examine business strategies; internal control systems; compliance with policies, procedures, and legislation; economical and efficient use of resources; and the effectiveness of operations.
Internal control	A system designed to provide reasonable assurance that an organization will achieve its goals. Management is responsible for an effective internal control system in an organization, and the organization's governing body should ensure that the control system operates as intended. A control system is effective when the governing body and management have reasonable assurance that: • they understand the effectiveness and efficiency of operations • internal and external reporting is reliable • the organization is complying with laws, regulations, and internal policies
Management letter	Our letter to the management of an entity that we have audited. In the letter, we explain: 1. our work 2. our findings 3. our recommendation of what the entity should improve and how it should do so 4. the risks if the entity does not implement the recommendation We also ask the entity to explain specifically how and when it will implement the recommendation.
Material, materiality	Something important to decision-makers.
Misstatement	A misrepresentation of financial information due to mistake, fraud, or other irregularities.

Outcomes	The results an organization tries to achieve based on its goals.
Outputs	The goods and services an organization actually delivers to achieve outcomes. They show "how much" or "how many".
Performance measure	Indicator of progress in achieving a goal.
Performance reporting	Reporting on financial and non-financial performance compared to plans.
Performance target	The expected result for a performance measure.
Qualified auditor's opinion	An auditor's opinion that things audited meet the criteria that apply to them, except for one or more specific areas—which cause the qualification.
Recommendation	A solution we—the Office of the Auditor General of Alberta—propose to improve the use of public resources or to improve performance reporting to Albertans.
Risk	Anything that impairs an organization's ability to achieve its goals.
Risk management	Identifying and then minimizing or eliminating risk and its effects.
Securitization	Is a financial transaction, which involves the pooling and repackaging of cash-flow producing financial assets into securities that are then sold to investors.
Sole source contract	An agreement with just one supplier chosen without a competitive bidding process.
Specified auditing procedures	Actions an auditor performs to check certain qualities, such as reliability, of reported information that management asks the auditor to check. Specified auditing procedures are not extensive enough to allow the auditor to express an opinion on the information.
Systems (management)	A set of interrelated management control processes designed to achieve goals economically and efficiently.
Systems (accounting)	A set of interrelated accounting control processes for revenue, spending, the preservation or use of assets, and the determination of liabilities.
Systems audit	To help improve the use of public resources, we audit and recommend improvements to systems designed to ensure value for money.

Paragraphs (d) and (e) of subsection 19(2) of the *Auditor General Act* require us to report every case in which we observe that:

- an accounting system or management control system, including those designed to ensure economy and efficiency, was not in existence, or was inadequate or not complied with, or
- appropriate and reasonable procedures to measure and report on the effectiveness of programs were not established or complied with.

To meet this requirement, we do *systems audits*. First, we develop criteria (the standards) that a system or procedure should meet. We always discuss our proposed criteria with management and try to gain their agreement to them. Then we do our work to gather audit evidence.

Next, we match our evidence to the criteria. If the audit evidence matches all the criteria, we conclude the system or procedure is operating properly. But if the evidence doesn't match all the criteria, we have an audit finding that leads us to recommend what the ministry must do to ensure that the system or procedure will meet all the criteria.

For example, if we have 5 criteria and a system meets 3 of them, the 2 unmet criteria lead to the recommendation.

	A *systems audit* should not be confused with assessing systems with a view to relying on them in an audit of financial statements.
Unqualified auditor's opinion	An auditor's opinion that things audited meet the criteria that apply to them.
Value for money	The concept underlying a systems audit is *value for money*. It is the "bottom line" for the public sector, analogous to profit in the private sector. The greater the value added by a government program, the more effective it is. The fewer resources that are used to create that value, the more economical or efficient the program is. "Value" in this context means the impact that the program is intended to achieve or promote on conditions such as public health, highway safety, crime, or farm incomes. To help improve the use of public resources, we audit and recommend improvements to systems designed to ensure value for money.

Other resources

The Canadian Institute of Chartered Accountants (CICA) produces a useful book called, *Terminology for Accountants*. They can be contacted at CICA, 277 Wellington Street West, Toronto, Ontario, Canada M5V 3H2 or www.cica.ca.

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